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California Cultivator

LOS ANGELES SAN FRANCISCO

JANUARY 1, 1904

None of nature's landscape's are ugly so long as they are wild; and much, we can say comfortably, must always be in great part wild, particularly the sea and the sky, the floods of light from the stars, and the warm, unspoilable heart of the earth.—MUIR.

Up Amongst the Vineyards and Orchards along the line of the California North-Western, north of San Francisco.

CIRCULATION EXCEEDING 10,000

Glendora Citrus Nurseries

Washington Navel, Thompson Improved Navel
Valencia Late and St. Michael Orange Trees
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DANCY and OONSHIU TANGERINES
"NECTAR" POMELO

This stock is one-year buds on two-year roots.

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WESTERN IRON WORKS
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SEED BED STOCK...

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 1 | LOS ANGELES, CAL., FRIDAY, JANUARY 1, 1904 | Subscription $1 a Year

Pruning Grape Vines...

BY J. W. MILLS, ONTARIO

When a young vine is planted in the vineyard, it should be trimmed to two buds. During the first summer after planting, it is not necessary to tie it to a stake unless it makes such a rank growth that it lies flat on the ground and forms a heavy rigid stem. It should be tied up straight before it reaches that stage. We have seen vines in the Coachella district get beyond control from a cutting inside of eight months. In such instances the vine is two years old, compared with vines as grown in recognized grape growing districts of the state. The object to keep in view, is to form an erect trunk with branches forming a crown at least one foot from the ground. This connot be done unless the vines are staked while still small and easily bent. Where the vines make a growth of a foot or 18 inches and the canes are as large as a lead pencil, the first year, two buds are enough to leave for the following year's growth. Where the canes are half an inch or more in diameter at the base, three or four buds may be left and the permanent head or crown formed from them. After the second year, two buds to each spur may be left, and the spurs may be increased as the vines grow stronger. The spurs are what remain of the canes after having been cut back to from one to three or four buds.

When sprouts come from below the head or on the branches below the spurs, it shows that the vines require more buds in order to take up the full flow of sap. At the following pruning, more spurs should be left on the vines or the same number of spurs should be allowed more buds. All sprouts below the spurs should be rubbed off while they are still brittle. These rules apply to starting young vines, whether they are long, half long or short pruners. Vines which have the main trunk or several branches which should form the main trunk, sprawling on the ground, are an agravation to the pruner, and the person whose duty it is to take care of the vines. Part of the crop will lie on the ground and this is objectionable.

* * *

After a vine is well started and has a well balanced top, it is ready to bear fruit. This should be in the third year from planting. The main object then is to make it bear fruit with the proper amount of leaf and branch growth. Pruning that will induce an abundance of foliage and branches will do so at the expense of fruit. On the other hand, pruning that will produce an abundant crop of fruit will do so at the expense of the foliage and if the pruning for fruit is carried to an extreme, the foliage will not be ample enough to shade the fruit and as a consequence it will be inferior. The limits of the two extremes can be determined by a little experience; no two classes of land will produce results that any rule will cover. It must be remembered that the most vigorous canes are the most liable to be non-productive. On the other hand, most varieties of vines which have small weak canes should be pruned short. Buds near the base of the canes are also non-productive as a rule. Canes of medium vigor are therefore the ones to be pruned for fruit. When there is a choice between the three kinds of canes, remove the small and most vigorous, but give those remaining one or two more buds than would otherwise be given them. This is especially desirable in the case of long pruning.

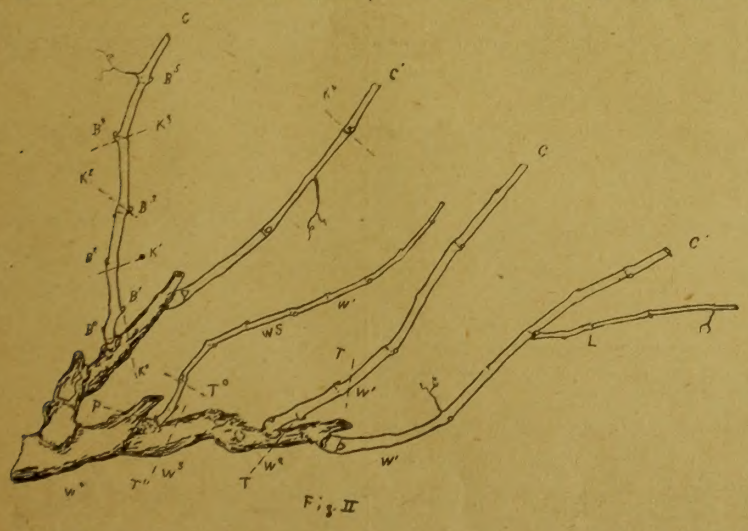

Fig. II

* * *

There are three principal methods of pruning; short, half-long and long. Each of these has a modification which make six styles of pruning. When vines are run on a trellis or wires, each of these methods may be used at intervals along the horizontal trunks.

The greatest number of vines in this state are pruned short as shown in Fig. IV. The vine is kept as near as possible in the shape of a goblet. In this style of pruning, but one spur is usually left on each lateral branch, the outer cane being removed at K0. Fig. II. The remaining cane should be cut off at K2, which leaves two fruiting buds, as the small bud near the base is not counted. If the vine continues to throw out sprouts below, and the variety produces abundantly when trimmed to two buds to each spur, more spurs should be left and the cane C. I, Fig.II, may be left and trimmed to two buds as in the other cane. If a vine is inclined to spread and flatten out, they should be pruned to canes that assume an upright position. Vines that have a tendency to grow upright and form too, close a head, should be spread by pruning to canes that have an outward slant. The direction of these canes can be secured by cutting to buds that point in the direction that it is desired to have the canes grow. If the vines seem to be getting out of shape by flattening out, it may sometimes be drawn in by pruning to a sprout that comes out of old wood, as WS. in Fig. II. As part of the bearing surface is thus removed and the sprout referred to does not usually bear fruit, more buds should be left on the remaining spurs. The sprout should be trimmed to two buds which will send out canes that will produce fertile buds the following year.

Fig. IV.

Fig. V

Some varieties of grapes bear better if pruned to four or five buds to each spur. This method of pruning is called half long. It is essentially the same as short pruning, except that the spurs are much longer as indicated, and besides these spurs or short canes with four or five buds, there are spurs of one bud left at the base of the long one, as at W. in Fig. V. In pruning these spurs to one eye, the basal eye is not counted. This eye will make a cane during the next summer provided the cane C. has not been left too long. At pruning time, the canes C. having put out from three to five fruiting canes each and borne their crop, should be removed with part of the old wood at K. This will leave two new canes that have grown from the short spurs. The cane from the basal bud can be used to make a short spur again and that from the other bud will provide for the half-long pruning that gives the three to five bud cane. In this way, the crown of the vine does not grow up out of reach and become ungainly. These

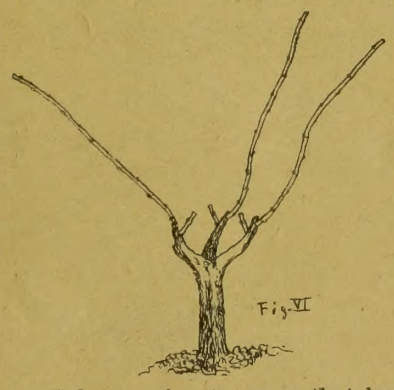
Fig. VI

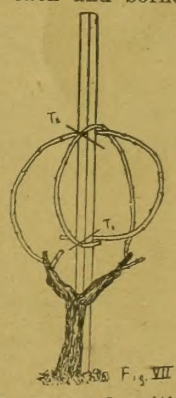

Fig. VII

(Continued on Page 18)

TYPHOID FEVER CURE.

Remarkable cures of typhoid-fever patients are reported by Beth-Israel Hospital, where a serum importeo from Italy and Switzerland is being used. Although the remedy has been in use more than three months, is has just been made public. In that time thirty cases have been treated at the hospital, which is in the most crowded quarter of the East Side. Not one of the patients died, and in some instances improvements set in before the fever had run more than half its regular course.

A small quantity of the lymph is injected into the body three times a day, sometimes in the thigh, sometimes in the breast. The operation is of the simplest, and practically painless. The injections are followed by regular treatment for reducing the temperature, careful diet and nursing.

Physicians in charge of the institution refuse to discuss the matter fully, pending the preparation of a detailed report on each case, for the use of the medical profession. They admit the successful use of the new serum, but maintain that the treatment is still in its experimental stage.—Medical Record.

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Friday, Jan. 1, 1904

OF GENERAL INTEREST.

The Year 1903.—No year in the past decade goes out with more well defined incidents than the year 1903. In some particulars it has been a year of startling and singular conditions. It was ushered in with pomp and ceremony and heralded as the banner year to be for speculative investments of the past quarter of a century. In many particulars this prophecy has been verified. Financial propositions of stupendous movement have been floated and the results have apparently been satisfactory to those who engaged in them. In some of the essential commodities of life prices have been unprecedentedly high. Beef for instance, has gone almost to prohibitive prices. Cotton advanced, at one time to a figure it has not claimed since the war of the rebellion. Steel and iron have been in active demand at prices which have stimulated the great plants to their fullest capacity. The crops in the middle-west have been abundant in price if not in quality. Wheat which has been lacking in amount has more than been made up in the high prices charging for the shortage. All the products of petroleum have advanced from twenty-five per cent.

* * *

On the Pacific Coast development in every condition of trade has been most gratifying. The Orient has turned into our ocean ports a continuous stream of commercial products which have kept our transportation lines filled to their fullest capacity.

If we are to take the word of the passenger agents of the trunk line rail roads, no year in the history of California travel will exceed that of the present. Our products have been sold at remunerative prices and our farmers and orchardists are well satisfied with their profits. The rail roads report one of the greatest volumes of business in the history of the transportation lines. So immense has been the traffic that the capacity of every line in the west has been, and is taxed to its limit.

* * *

Merchants all over the country have done well, so that it may be said prosperity has been universal.

It is true in a few instances failures have followed promotion, but these were only individual cases and no disaster of a public nature followed. This is always to be expected where men plunge, or work the market for speculative purposes. The banks of the country have been, and are, sound. There is an abundance of money with which to transact the necessary business of the country, and money from abroad is lying idle waiting for securities to fall to a safe basis where purchase is regarded with some certainty of profits. The supply of money in the United States was never so large as today, and never so good. Our stock of good money is 1300 millions of dollars, double that of England. In five years it has increased nearly 400 millions with us, or as much as the gain in all Europe, with five times our population. The per capita stock of good money is in the United States, $29, France $24, Germany $13, other parts of Europe $3 to $9. The United States alone is producing each year over $80,000,000 in gold, or more than one-quarter the world's production, and most of it is coined into money.

In the past five years money in circulation has jumped from $24 to nearly $30 per capita, and the part of gold in it from $8.75 to 12.50. On top of all this put the fact that the gold in the United States treasury is greater than the deposit held by any other nation.

These amazing facts follow a period of high prices and still higher wages. Some settling down will do good, all along the line. Meanwhile the area of land remains fixed—there are no more free farms. Advancing land values and prosperity for the farmer are evidently assured for the future.

* * *

Locally, in the cities of this state, the holiday trade is reported as more satisfactory than last year. People have money. It is not alone in the pockets of the rich, but in the pockets of the laboring man and his wife. Under all those circumstances we may write the year as one of great prosperity and the prospect for the year to come as fraught with no apparent disaster in the financial world.

* * *

In one particular the year presents startling accidents. Disasters by rail have been frequent and terrible. They have followed one another with wonderful quickness and seldom have we witnessed more serious results. If these appalling accidents shall open the eyes of the managers of our transportation lines to the necessity for great vigilance in handling trains in the future, it will be well for those who live today and must travel the country in pursuit of business or pleasure.

* * *

The criminal record has been badly shattered this year, for the number of crimes in the catalogue has been enough to blanch the cheek of him who reads them from day to day. It seems, try we never so vigilantly to uphold the laws and prosecute criminals, we cannot keep pace with the volume of murders and other crimes which fill the dockets of our courts.

* * *

But while the criminal calendar has apparently grown in volume in the past year, agencies for good have been at work to overcome the war like tendency of the times. Peace conventions in England, have had their counterpart in the pulpits and rostrums of America, where eloquent orators have proclaimed the gospel of "Peace on Earth" as the corner stone of national growth and perpetuity. Prominent in this grand work has been the President of these United States, whose counsels have been for peace and obedience to law, both human and divine. To him the country is indebted for the reasonable tranquility it has experienced in the ranks of the American laborer. Of course there has been disturbance along this line, but not to such a degree as to create anything like universal unrest. Let us hope there will also be a diminution of the labor trouble in the year 1904 for in no country on the globe are there better fed, better clothed, better paid workingmen than in these United States.

* * *

We cross the threshold of the new year animated with hope and full of ambition to make it one of the greatest in the Nation's annals. The Cultivator shares this universal expectancy and to each of its ten thousand and more subscribers sends greeting, with the wish that every joy and all prosperity may attend one and all.

* * *

Trouble Feared.—The decision of Judge Trask in the matter of the orange growers and the citrus union continues to be discussed at great length in the East, where the sales of the union are conducted. The refusal of the court to enforce by injunction the Citrus Union contracts will, it is claimed in green fruit circles, reduce the proportion of fruit the combination now expects to handle. Last year many cars of fruit sold for less than freight, and hundreds of cars brought growers into debt, the freight being 90 cents per box from California to points in the East, plus 25 cents per box if the fruit came in refrigerator cars. Contracts between the growers and the union this year were believed to be unassailable, and the new court decision, it is asserted, now places the grower in a position in which he can continue to send his freight through the union, if he sees fit, or can sell elsewhere if he thinks he can secure higher prices. The decision is keeping green fruit circles guessing as to what the outcome of the litigation will be, for if Judge Trask is sustained in his opinion by the higher court, the door will be wide open for wholesale desertions. The friends of Fruit Agency contracts contend, however, that the present conditions will not be changed nor will the business of the agency be materially injured, as some of the commission men affect to believe.

* * *

Rain.—The northern counties are happy in another wetting, the middle counties had a little and want more. The southern counties had nothing but a drying "norther."

The "moon has changed" but the weather didn't. Even the ground squirrels, which built their nests in trees in anticipation of a flood, are coming down, and the only thing which looks like rain is the farmer's face, which looks like a thunder cloud.

There are records of other years which show wet seasons which had almost the total precipitation after this. So we will not be blue and grumpy. It will do no good.

The only satisfaction in the whole proceeding is the opportunity it gives to abuse the weather bureau.

* * *

Possible Shortage of Grain Crop.—The crop report of the United States Department of Agriculture, issued this week, predicts a shortage in the grain crop of Southern California for the coming season.

The citrus crop of Southern California is in good condition, as winds have accompanied the few cold nights, doing away with frosts.

Up to date we have had this season but .43 of an inch precipitation; yet this is not unprecedented, according to the reliable statistics of the Weather Bureau. Before the government opened its department here, says the Times, rain records were kept by C. Ducommon, and among these is the table for 1876, showing that but .40 of an inch fell from September 1, '76, to January 1, '77. The record-breaker, however, occurs as recently as 1898, when only .23 of an inch of moisture came down before January of the following year. In 1891 the precipitation was rather small, only .94 inches falling before the last two or three days of December. In 1895 the precipitation from September to December, inclusive, was 1.82. In great contradistinction to these figures is the very wet record of 1889, when 15.80 inches of rain fell during December alone.

After learning that our dry spell is not unprecedented, interest naturally centers in the rainfall of the early months of the years following. The well-remembered season of 1898 was the record-breaker, and in January, '99, there came 2.64 inches, but .23 of an inch having preceded it during all the months before. February brought but .04 of an inch, March 1.81 inches; April, .18; May, .04; and June, .58. The total rainfall for the season was 5.52 inches. Following the early dry spell of '95, January, '96, was productive of 3.23 inches, and the season's total was 6.69 inches. Following another fall drought, February, '92, brought 3.19 inches, and the season's total figured up very decently to 9.80. In 1877 the result was not so good, only 4.88 inches falling throughout the year.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

TROUBLES TROUBLE THEM.

The Erie Railroad's decision to allow the auctioner first place who has the largest number of carloads of oranges for sale each morning has caused great uneasiness to the independent shippers. Heretofore, it is said, the auctioneers "rotated" in the use of the Erie's auction rooms in New York. The Erie's late order gives the preference to the California Fruit Agency's fruit only when that organization has the greatest number of cars, which is equivalent to giving our organization the lead all the time. Last Monday Brown & Secomb for the independent and The Fruit Auctioning Company for the Agency, held their auction sales simultaneously. This action resulted from the order to allow the heaviest holders the preference.

Friends of the agency claim that they are but receiving a just recognition as large shippers. But aside from that, the Agency is only the seller, for a large lot of small growers; and not the owners of the fruit. It is not a "combine" in the offensive sense used by those who expect to profit by remaining outside the Agency, which latter is primarily formed to prevent improper distribution. If, in pursuance of the policy of suitable distribution the Agency put twelve carloads of oranges upon the New York market last Monday morning it cannot recognize the right of a small contingency to side-track the fruit while that contingency proceeded to destroy the policy which is the most potent reason for the existence of the Agency, namely, the policy that recognizes the supply of the markets without dearth or congestion. If a small lot of fruit gets in the way of the execution of a plan approved by 80 per cent of the growers it is not expected that the larger interest shall give way.

General Agriculture

CALIFORNIA ORANGE MARKET.

Receipts this week of Northern California navels have consisted almost exclusively of immature, pale and greenish stock, and there is only a very limited demand for this class of fruit this season. Sizes have also been out of range, very few of the cars carrying anything outside of 80s and to 126s.

A car of Mariposa brand, which sold on Wednesday, had very fine quality, but a great portion of the fruit lacked color. This particular car ranged from $3 to $2.35 for sizes 64s to 126s. There is a strong demand for navels at the present time, but they must have the right flavor and color to interest the New York trade. If a car of this kind shows up it will be welcomed by the trade with open arms. When California navels reach the right stage of maturity and color dealers will extend the "glad hand" to them with great gusto.—New York Fruitman.

GOOD APPLES AFFECT ORANGE SALES.

"Has it ever occurred to you," asked a Washington street merchant of the Guide man last week, "that this disastrous slump in the orange market, which is troubling so many receivers right now, is in great part due to the remarkable excellence of the apples now arriving on the New York market? Not in many years have the public enjoyed a chance to eat such good apples at such low prices. For many years past the apples at the stores and on the fruit stands and barrows on the streets have been unattractive in the extreme, both to the eye and taste, but this year one can get a first-class apple at a very cheap price without the slightest difficulty, and the show made on the fruit stands is attractive to the eye to a most remarkable degree. This is bound to have a bearing on the orange situation. Take my own individual case, for instance, to show you how things work out. I sent over a barrel of Almeria grapes and a barrel of apples for my household use a week or so ago. The grapes are practically untouched; the barrel of apples is almost gone. I am not asserting that when a man wants to eat a grape or an orange that he is going to be satisfied with an apple, but I do say that a full supply of excellent grade apples obtainable with the greatest ease and at moderate prices is bound to injure the consumption of other fruits."—Fruitman's Guide.

SILK CULTURE IN ITALY.

About 500 A. D. Persian monks first brought silkworm eggs concealed in the head of a hollow staff to Constantinople. Thence silk culture spread into Greece. A little later conquest carried it to Sicily. From there to Italy it was but a step. Soil, climate, people suited it. The industry took root, grew, throve and continues to this day. The thrifty peasant manages to get silk and oil and wine from the same small holding. First, he plants his mulberry trees, 16 feet each way; next he prunes the heads into a hollow cup and trains his vines all over them, and finally around the edge he sets a shelter of olive trees. So all seasons bring him labor and the reward of it.

REMEDIES FOR ROSE AND OTHER APHIS.

KEROSENE EMULSION.

This is very useful in the garden as well as the orchard. It is harmless to vegetation. Whale-oil soap, one-quarter pound; two quarts hot water. Melt the soap, and then add one pint kerosene. Churn the mixture until it emulsifies or forms a cream. Dilute with 10 or 12 times the amount of water.

HOT WATER.

Submerge the parts affected in hot water of a temperature of about 125 degrees. This will kill the aphis, and is sometimes useful when the insect attacks house or garden plants.

TOBACCO DECOCTION.

Make a tea of tobacco stems or dust by boiling thoroughly. Add cold water till the decoction contains two gallons of liquid to one pound of tobacco.

MUTILATION OF TREES.

Why is that the telephone company's linemen seem to take pleasure in butchering or maltreating the street trees whose branches interfere with their work? It may be necessary to top a tree or to cut out a limb entirely, but that is no excuse for the wanton mutilation with an ax. Are there no rights in the premises other than the will of a corporation or of its employes?

BERMUDA GRASS.

Editor Cultivator.—The killing out of Bermuda grass, or Johnson grass, is indeed a serious problem in the orchard or among small fruit. But I have had both of them, including the Devil grass, and have had no special trouble in getting rid of the first two varieties. As no plant can live without breathing, and as the leaves are the lungs of plants, no foliage, no growth. We well know that many plants will sustain life in different form a long time, as in dormant tubes, rhizomes and buried stems or cuttings, but we should never bury the stems of any of the above plants when there in any moisture in the top soil. Our experience is that the Bermuda grass, or Scertch grass (Cyno'don Dactylon), does not propagate from roots below the crown of the plant; but from seed and joints) or whole stems on moist ground, or when covered with soil will hold their vitality a long time. Our mode is to plow very shallow when the weather is quite dry and gather and burn as soon as dry, and it drys very quickly in hot weather. We have known of large fields of Devil grass completely subdued by a season's cultivation without crops but where celery will grow, one or two crops of this paying vegetable will eradicate the nuisance if the crops are cultivated thoroughly.

The Evergreen millet or Johnson grass (Sorgum Halefense) is the worst of the three, when it comes to clearing the soil where it has once got a strong foothold, but by continued effort, by not letting any foliage appear, it must in time succumb. They are all very useful forage plants in their place, but California is not the place. It would be hard for the stockmen of the Hawaiian Islands, if they were deprived of Bermuda grass. It is a valuable grass in most warm countries—but everything in its place.—S. J. Murdock.

CROP EATEN BY INSECTS.

Prof. Skinner of the National Academy of Sciences, says the Baltimore Sun, makes the following estimate of the damage done to crops by insects: One-tenth of the total agricultural produce, or $300,000,000 worth, is eaten up or lost every year through insects. One-half of this is loss to the staple crops. Credit is given to various insects about as follows: Hessian fly's damage to wheat, rye and barley, one-tenth, or $40,000,000; chinch bug, $7,000,000; corn root worm, 10 to 20 per cent. in many States, certainly averaging 5 per cent., or $37,000,000 of the corn crop; total to growing cereals, $84,000,000. In seven gulf States damage to corn has been estimated at 20 per cent. and at 5 per cent. for the whole country, making the total $40,000,000. All other stored grain is estimated at 3 per cent., or $20,000,000, making a total approximate damage to stored grain amounting to $60,000,000. Grass and hay, $20,000,000. Cotton, by the cotton worm, boll worm and boll weevil, $30,000,000 in 1880. Since then this loss has decreased, but Texas in 1894 lost $8,000,000 by the boll weevil and $15,000,000 is considered a low annual estimate of its work on cotton. Tobacco gave up 8 per cent., or $2,000,000, to a horde of insects; potatoes, 6 per cent., or $10,000,000, to the Colorado potato beetle. No figures are given for fruits, truck, domestic animals, and timber.

SET THE HIVES APART.

We should much prefer to have each hive on a stand by itself, that in opening or removing one of the others may not be disturbed either by the jar, noise or excitement of the bees. The stands should be level from side to side of hive, and about an inch lower in front than back, which will allow any rain that beats into the entrance to drain out again quickly. A strip of plank raised upon four bricks may be high enough if there is no tall grass or weeds allowed to grow up in front—putting a strip of inch board upon the two bricks at the rear end if the ground is level. If they are placed in more than one row let each row be in the space between two hives in the row front of them. Where it is desirable to economize room, rows may be ten or twelve feet apart, and hives twenty and twenty-four inches apart, from side to side. We like to have the entrances face the east or southeast, particularly if they are to be wintered on the summer stands. It is well to have the hives shaded, both in spring to prevent too early a flight and in summer, to prevent any melting down of comb; but we do not want them set under apple trees. The jar from apples falling on the hive disturbs them and makes them cross.—American Cultivator.

The annual expenditures by the Chinese farmers in the Hawaiian islands for labor is $21.45 per acre; white farmers, $3.49 per acre; Japanese farmers, $3.65 per acre; and by the native farmers, 11 cents per acre.

BEEKEEPERS' MEETING.

The 14th annual convention of the California State Beekeepers' association will be held in the assembly room of the Chamber of Commerce, Los Angeles, on January 4th and 5th, 1904.

The program of the Glendora Farmers' Institute comes too late for publication, as the institute was held on the 30th. Committees having charge of these institutes should forward their programs at least two weeks preceding the date of the holding of the meetings.

The production of oranges in the United States amounts to 12,000,000 boxes per annum, of which 10,000,000 boxes are produced in California and 2,000,000 boxes in Florida. The consumption of lemons in the United States amounts to 3,000,000 cases per annum, of which 1,000,000 cases are produced in California, the remainder being imported.

GO TO GARDENA

Gardena is located in the center of the broad fertile valley between Los Angeles and San Pedro; has two electric lines giving the very best facilities for marketing products.

It is without rival in regard to climate, soil and water supply.

The soil is adapted to berries, alfalfa, vegetables, walnuts, etc.

To illustrate what can be done, we visited the model ten-acre ranch home of Messrs. Burge and Michael near Gardena. They kindly gave us an itemized statement of sales of produce for the year 1903. The walnuts (nearly 4 acres) were sold for $731.79; small fruits, vegetables, hay, chickens, eggs, cream, etc,, $818.77, making a total of $1,550 56. Can you ask for a better investment?

For Sale, 10 Acres, $4500

House of 6 rooms, barn, farming tools, hay in barn, 1 horse, chickens, etc. One acre in alfalfa, balance in orchard, mostly apricots. $2,000 cash, 6%, good time.

5 Acres, $2,000

Three acres young strawberries; balance alfalfa and garden. Horse, cow, buggy and farming implements.

5 Acres, $1,400

Two and one-half acres new strawberries,

20 Acres, $2500

One acre strawberries, 3 acres apple orchard; 7-room house; barn. Easy terms.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc. Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house' sheds, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house and barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

W. M. GRAY
Gardena, Cal.

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CITRUS STOCK

Season Navels Navelencias Valencia Lates **1904**

All stock two years old on four-year-old roots. First-class in every particular. Large, healthy, clean. No better anywhere. Write us for prices.

Mills & Masters

JAS. MILLS, Mgr. RIVERSIDE, CAL.

RIVERSIDE NURSERIES, Riverside, Cal. Fullerton, Cal., Oct. 24, 1903.

Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully, CHARLES CHAPMAN.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

WINTER TOMATOES.

A subscriber at Glendora writes for information regarding the growing and care of winter tomatoes. The tomato requires for its perfect growth a warm soil and a high temperature. These conditions are found in many of our foothill sections, continuing through the winter months, and in such sections it should prove a profitable crop. The seed for winter tomatoes should be sown about September or October, in shallow boxes of moderately rich soil. As soon as the plants are large enough they should be shifted to pots, and we have found the common splint berry boxes as good for this as anything. In these they can be allowed to remain until it is desired to transplant them in the permanent bed. In these boxes the plants have abundant root room, and can be left until they have attained a considerable size. By placing the berry boxes close together, the plants may be kept in a compact mass and are easily handled and cared for until they are large enough to set in the open. A light sandy loam is a desirable soil and this may be enriched with a compost of well rotted manure mixed with rich garden loam and a little wood ashes. The tomato requires from two to two and a half months from the time of sowing the seed to the period of bearing. Hence the seed sown in October should begin fruiting in December and for a continuous crop seed should be sown at different intervals. As is well known, the tomato is very susceptible to cold and will not stand the least touch of frost; it is, therefore, necessary to see that it has warmth and is well protected from changes in temperature. This protection can easily be accorded it in our frostless sections by providing a cover for it at night when the temperature is too low for its continuous growth and when, if the plant lives, it will receive a set-back that may check its bearing and defeat the object for which it is grown. A light covering which will prevent the radiation of the heat of the soil during the night is therefore an important necessity in the production of winter tomatoes, even in the most favored locations in our state. The treatment of the plants is practically the same in the winter as in the summer season, the conditions required being such as will insure steady and continuous growth and prevent any set-backs, from which it may take the plant a long time to recover, if it recover at all, continuous warmth, which the sun will furnish by day, and which can be conserved by covering on chilly nights, a rich soil, and not too much water; with these conditions supplied there is no reason why our correspondent should not have tomatoes on the market when they are profitable. In the colder eastern states it is found profitable to grow this crop in green houses, with all the cost and labor attendant thereon, while very poor tomatoes are brought into San Francisco during the winter months and command 25 cents a pound. At such prices it will pay those who have sheltered places to take a little pains with this crop.

* * *

Editor Cultivator: I have a two-year old vineyard, stocked with Tokay, Empress and Cornichon grapes, and wish to know how to set about pruning. Could you let me know through the Cultivator, how to proceed in each variety. Also how can one best propagate raspberries and dewberries.—Subscriber, Loomis, Cal.

The method of pruning Tokay grapes most common among experienced growers of this variety is to cut back to two good buds, not counting the small or aborted buds. The number of canes left on the vine is dependent upon the strength of the vine, and may be from two to six or more. On thrifty two-year vines three or four canes may be left. This is a matter that must be left largely to the judgment of the pruner, who should be able to estimate the strength of the vine and how much fruit it can successfully carry. Cornichon grapes will stand practically the same treatment. In the case of Emperors the practice is to leave longer canes and from four to six good buds are left.

Raspberries are propagated by suckers, or offsets springing up from the main roots. These are divided into single plants, and are planted in rows from three to four feet apart. The best soil for the raspberry is a rich, deep, moist loam, although it will do well on hillsides and at a considerable elevation. Dewberries are propagated in the same manner by division of the roots. They are also tip-rooters. The long canes bend over on to the ground and young plants will start from the tips of the canes. If the grower desires to help nature in this method of propagation he may place a handful of earth on the tips of the canes. The Loganberry is treated in the same manner.

After cleaning keep utensils inverted in pure air, and sun if possible, until wanted for use.

TREES APPLE CHERRY PEACH PLUM PRUNE APRICOT

GRAPE VINES LOGANBERRY MAMMOTH BLACKBERRY
STRAWBERRIES RASPBERRIES CURRANTS GOOSEBERRIES

SEEDS Vegetable, Flower, Farm and Tree **SEEDS**

UTAH ALFALFA SEED

Write for our new Catalogue, ready to mail January 10th

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SEEDSMEN & NURSERYMEN SAN FRANCISCO, CAL.

Plant the World-Famed Fig of Commerce, the **Lob Ingir Smyrna**

This is the variety recommended by the U. S. Department in Bulletin No. 9, entitled "The Fig, Its History, Culture and Curing." This is the variety that excels all others for drying purposes. Good stocky trees, 25c each, or $15.00 per hundred. Buy direct from us or from our agents and get trees from the original Smyrna trees. History of the fig sent free on application. Sample of the fruit by mail, 50c.

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W. HERBERT SAMSON, PROP. CORNING, CAL.

TREES

WALNUT and APRICOT

Selling fast. We carry a full line of all leading varieties of **CITRUS. DECIDUOUS** and **ORNAMENTAL STOCK.** Get our prices before buying. **PRICE LIST FREE.**

Orange County Nurseries

Richman & Mills, Props. FULLERTON, CAL.

BY J. W. MILLS, ONTARIO, CAL.

APRICOT BLIGHT.

Prof. Paddock, horticulturist of the Colorado Station, has been making experiments with blight of the apricot. It has been supposed that pear blight never attacked anything except pears, apples and quinces, but Prof. Paddock has proved that the young twigs and fruit of the apricot are very susceptible to the disease. Diseased tissue was taken from the apricot and examined under the microscope and the pear blight germs were recognized. Some of the same was used to inoculate apple and pear trees with the same result, as pear blight shows naturally. Pear blight germs were taken from affected pear trees, pure cultures made and used on apricot trees and fruit with the same result. The apricot trees that were discovered with the blight on the fruit and twigs were in a mixed orchard that contained pear and apple trees affected with the blight. All of this evidence goes to show that there is no doubt that the apricot has this disease to contend with.

The twigs show the disease just about as it is seen on apple and pear twigs. The outer bark turns dark and blends gradually into the healthy tissue. Drops of sticky fluid show on the shriveling twigs and leaf stems. The blight spots on the fruit are known by the flesh of the fruit turning dark and shriveling, and in time sinks so that the outline of the pit may be seen.

The remedy recommended, is to remove all twigs or branches of pears, apples, plums and apricots that show any sign of the disease. These should be removed whenever seen and special care should be used late in the fall in removing such parts of the trees. It has been proven that the germs of pear blight live over winter in the diseased tissues of these plants and when the sap starts to flow in the spring, a sweet gummy substance exudes from the affected parts. This is attractive to a great many insects and they convey the germs from such places to the blossoms of the trees. From these, it is spread broacast. In removing diseased twigs it is important to cut at least 8 inches below the points at which the disease shows. Of course all brush should be burned at once.

* * *

BUDDING PEACH TREES.

Editor Cultivator: I should like to know when is the best time of year to bud peach seedlings. I wish to propogate some choice varieties and should like to know the best time to do it; also, just which is the best time to plant the stones, fall or winter.—E. H. F., Los Angeles.

The peach pits should have been put down in sand early in the fall and kept wet all the time. The safest way is to dip the stones in a solution of bluestone and water, one pound to 10 gallons, spread them out about two or three inches deep on a bed of sand with good drainage. Place a double thickness of burlap over them, and over this about three inches of sand. The burlap should be dipped in the bluestone water also. Keep this sand wet all the time. Sprinkling it every other day will do it when it does not rain. Enough water should be used to wash through the seeds so as to remove the bluestone that might cling to them. Have your nursery ground ready early in the spring and when you see the peach stones cracking, pick them out and drop them in shallow furrows in the nursery rows. Place them about a foot apart and about the middle of July they should be as large as lead pencils, when they may be budded. As soon as the buds show unmistakable signs of having healed over well, cut the tops off about an inch above the buds. They will start to grow in a few days and by fall they should be about a foot to 18 inches high. These are known in the trade as June buds and are preferred to a yearling tree by a good many growers. We like them better as the roots are kept more intact in transplanting. The whole tree is smaller than a yearling, but if well grown, is plenty large enough to transplant well. If you prefer a yearling tree, but the seedlings in the fall and remove the tops in the spring when the trees begin to grow. The buds grow all the following season and a much larger tree is secured. All kinds of deciduous stock may be budded as described.

* * *

COLD STORAGE.

A subscriber wishes to know where he may get the best information on methods of cold storage, being especially interested in keeping late varieties of table grapes. We would refer him to Farmers' Bulletin No. 125. This gives reliable information on this subject and may be secured from the Department of Agriculture at Washington, D. C., without charge, by dropping a postal card to the Secretary of Agriculture.

* * *

RYE GRASSES.

Editor Cultivator: Will you please tell me the difference between Australian rye grass and Italian rye grass and where can I get seed in San Francisco?—Subscriber, Arroyo Grande.

There is little difference between the two kinds, both being known as Lolium perenne. There seems to be a "distinction without a difference" in these so-called two kinds of grasses. Tests at the experiment station show no difference in results. The seed may be secured from any of the seed firms in the state.

BY J. W. MILLS, ONTARIO, CAL.

SPLIT ORANGES.

Mr. Braunton calls our attention to the fact that in some instances, Washington Navel oranges split transversely or crosswise, thus proving that the navel has nothing to do with the splitting, but the apparent reason for them splitting at the navel in most cases is due to that point being the weakest spot in the orange. When the pressure of the expanding pulp overcomes the resistance of the rind, it breaks in the weakest part. This seems to be reasonable, and no doubt is accountable for much of the trouble, yet we have seen the navel part of the orange so ill-shapen that its power of resistance was very small and still would not split, while on the same tree, oranges with well shaped navels would split open. We cannot asservate with certainty that the split navels were weakened by any foreign growth, but we think that such is more often than not the case. Opposed to this theory is the fact that the navel will often start to split on the outside just as the skin sometimes splits half way around from the navel. Mr. Braunton's experience shows that under certain circumstances the navel has nothing to do with the splitting, while where the splitting is practically confined to the navel end, the navel at least allows the splitting to occur. It is a fact that the navel form in itself is not necessarily a point of weakness, if oranges having navels split in other places. Mr. Braunton says that the fact that splits occur on the sides, shows that the navel has nothing to do with the splitting, meaning, of course, that the primal cause lies deeper. There is, no doubt, a tendency towards splitting in every orange. We suggested that the navel cavity was an ideal place for the lodgment of germs that might weaken the rind at that point so that it could not resist the strain of the expanding pulp. We have examined a great number of split oranges and almost always found fungus growth at the point, but we could not tell if it started before or after the fruit split.

Mr. Braunton has kindly told us that he observed two orange orchards, one which suffered for water and afterward received an abundance with the result that a good percentage of the fruit split crosswise. The other orchard, situated on different soil, had received proper care and no fruit in it split. We would like our readers to write and tell us the results of their observations. It makes no difference whose toes get stepped on. It is a question of oranges, not toes.

* * *

OVER 10,000 CIRCULATION.

We are exceedingly pleased to know that the California Cultivator has outstripped every other agricultural paper on the coast, being the first to pass the 10,000 mark in circulation. We are proud to know that we are one of the staff and that we have been able to keep up with the procession, thanks to our numerous kind friends. We have been a reader of the Cultivator for the past ten years and shall continue to be one as long as we are interested in farm or garden work.

RESISTANT GRAPE VINES

We are, and have been for some time, large growers of Resistant Grape Vines. Write for quotations on resistant grape vines grafted to the leading varieties of table and wine grapes. We shall be glad to supply you this season with anything you may want in the grape vine line. You will find our stock right and the prices right.

Finest and most complete Nursery Catalogue published mailed for 5 cents postage.

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NO EXCEPTION

Last year we said the Tilton Apricot was a regular bearer. NEVER FAILS. This year is no exception. Every tree bore heavily; old ones as well as the newer planted orchards.

Fifteen Years' Test
and still the
TILTON APRICOT

Is a winner. Large, highly flavored, good color. In the dried fruits the Tilton won First Premium at the Great Central California Fair. Liked by canners. Original tree 18 years old near our nursery. Buy trees where you can get true to name buds from original stock from the Original Tilton Nurseryman. A thrifty lot of peaches and other deciduous trees.

J. W. BAIRSTOW, HANFORD, CAL.

A. B. C. OF INSECTS.

As an introduction this week, I wish to speak of a little talk with a prominent orchardist who I think has been president of a club and who stands among the first in his neighborhood. I met him in Los Angeles. He said,"Do you know that those articles in the Cultivator on insects, are just what I have been wanting for years? I am saving up the papers and shall read them over and over. They make me hungry to know more," and he asked for the best book on entomology. I have had several comments of like nature from men of like standing, and so I am bold to keep up these articles despite the criticism of a good friend that they are pretty heavy and he fears the readers of the Cultivator will tire of them. Is it not true that the more the orchardist knows of his business the more surely he may look for success? What touches his interests with more power to injure that do his insect enemies. If this is true, how can the wide awake orchardist tire of such articles. I will compromise however, by making the conclusion as brief as possible.

* * *

Fig. 5

Tineid Moths.—These moths are very properly called Micro-Lepidoptera. They are very small and are familiar to us in the clothes moth. Most of the caterpillars feed on leaves and are often leaf miners. The ones most important to us are the clothes moths, of which there are two or three species. Owing to our warm climate, they are very apt to work havoc upon our woolen goods. This is one reason why I prefer rugs to carpets. If the rugs are dusted and hung in the sun once a month the thorough beating will almost surely prevent moth ravages. Woolen goods, not in use, kept in close trunks or drawers with plenty of moth balls are pretty safe. Any clothing affected as also upholstered furniture should be thoroughly treated either with bi-sulphide of carbon, or gasoline. It is well to remember that these substances are inflammable and somewhat explosive and so great pains must be taken to avoid any fire. It will be observed that the remedies are the same as for the carpet beetle—the so-called buffalo moth.

* * *

Tortricid Moths.—These moths, familiar to us in the codling moth and the orange moth, are so named from their leaf rolling habit. Most of them feed on leaves, which they wrap about them as they feed, fastening the same with thread. Of course, as with all Lepidoptera, they do their feeding as larvae or caterpillars. As stated in the last Cultivator, the orange caterpillar will probably never do us any serious harm. The codling moth, however, is a very serious pest where apples and pears are grown. As I proved several years ago, Paris green may be made very effective against this moth. Professors Clark and Woodworth have again gone over the ground, the past season. They find, as I found years ago, that a faithful use of Paris green may be made very effective against the insects. The points I urged then were, a good article, one pound to two hundred gallons of water, with four or five pounds of lime added, to prevent burning of the foliage, keeping all thoroughly stirred, and very thorough application, which is much more likely to be accomplished if a power sprayer is used. Prof. Woodworth would advise three or four applications in a season. From my elaborate experiments made in Michigan I am convinced that if all would use this method, very soon one application or two at the most would be all that would be required. The one application should be made three or four weeks after the trees are in full blossom. It is a mistake to spray too early. Prof. Woodworth has done good work this year. It is to be hoped all apple and pear growers will thoroughly study his bulletin and most inportant that all follow his suggestions.

* * *

Noctuid Moths—These are the sober colored night flying moths. We are familiar with them in the cut worm and army worm moths. This year they have bled our alfalfa growers to the tune of thousands of dollars. While the Tineids and the Tortricids all pupate in silken cocoons, these night fliers pupate in the ground. The caterpillars, like most others, have sixteen legs and are great feeders. Fortunately, they are so preyed upon by parasites and predacious beetles that they rarely do much harm. Occasionally their enemies seen off duty, when, as in the past season, they come forth in armies and work fearful havoc. It is hard to combat them. Poisoning bunches of grass with Paris green has given some relief. Where insects come in such overwhelming numbers, the problem of theis destruction is not an easy one to solve.

* * *

The Geometride—These moths are very delicate thin winged species; the caterpillars have ten legs and so are loopers or measuring worms. They pupate in the ground but also envelope themselves in a slight silken cocoon. In the north of our state, the canker worm is an unfortunate illustration of this family. They are grievous pests in the deciduous orchards. I had much experience with these canker worms in the East and I never failed to undo them with Paris green, used as I recommended above for the codling moth. As the females are wingless, these insects do not spread rapidly and concerted action on the part of the fruit grower would soon lead to extermination. As yet so far as I know we have not this enemy in Southern California.

In the next number I will complete the study of moths and butterflies, after which I will briefly treat of the most wonderful order of all, the Hymenoptera, which includes bees and the related insects.

* * *

STABLE FERTILIZER.

I had the pleasure of a considerable car ride the past week with one of our most advanced citrus growers. He has used commercial fertilizers not a little and while at first he seemed to get immediate and most surprising results, his success was not continuous. Indeed, he feels that his soil may have been injured, for the trees have even seemed to go into a decline and are disappointing in their product. He used not a little treated phosphate rock and wonders of the sulphuric acid could possibly work to the injuring of the soil. Experiments with his lawn seemed rather to sustain this opinion. I wondered if his stimulation of the trees to such excessive fruitage may not be one cause of the set back. I find our football men after playing a magnificent game are not ready to play a second game until after a considerable period of rest. They are pushed to their hard game by the enthusiasm of friends and spectators. May not excessive use of commercial fertilizer in readily available form be the enthusiasm which pushes the citrus orchard to undue exertion. I only give this as a hint.

As I told my friend in this conversation, the most of our citrus growers who have made marked success in their orchards have used a large amount of stable fertilizer. I believe that the humus thus added to the soil is one of the things that we must have to secure the best results. Our soils are poor in this material. It is very likely that an oversupply of this fertilizer may result in coarse fruit, though I am far from sure that this has been entirely proved. It may be however that a large amount of stable manure may produce such an excellent condition of the soil that an excessive growth would result, and coarse fruit be produced. While then, it may be well not to crowd the orchard too heavily, even with stable fertilizer, I believe it is safe to use a goodly amount and then, I believe it is equally wise to add a not excessive amount of treated bone meal.

* * *

My friend agreed with me that stable fertilizer when of good quality was excellent for the orchard, but complained that it was not easy to get and was somewhat expensive. I asked him why he did not practice the green manuring, as I knew he had not done so. He said he tried some years ago but with indifferent success. The peas did not seem to do well. This was, however, before the inoculation theory was made prominent. His neighbors were now growing fine crops and he expected next year to try peas again. It will be remembered that I have nrged for several years, in the Cultivator, that we decide once for all what green crop we shall use, then adhere to this crop that we may be sure to have our soil replete with the specific bacteria necessary to the successful growing of the crop. This is why I have always urged the planting of the Canadian field pea as I knew that to be one of the best crops that could be grown. If it is true,as I reported that fenugreek grows more vigorously and produces more herbage and that it is visited by the same bacteria that work on our common burr clover and which is abundant in all our soils, then possibly fenugreek may take the place of peas. Several are working in this line and we shall soon know more definitely as to the exact status of this new plant and its value for green manuring.

* * *

DISTILLATE SPRAY.

I have two communications from Sacramento county, one from E. A. Gammon, Courtland, the other from M. N. Williamson, Sacramento. Both represent that a manufacturer of spraying machines from Southern California in his endeavor to sell machines in the north recommends distillate spray as a superior wash for codling moth, scab on pears and all fungus growth. Both parties ask me for advice in the matter. I strikes me the above savors altogether too strongly of the usual advertisements for proprietary medicines, with this difference that the patent medicine is often absolutely worthless and not infrequently harmful, while the distillate spray does have its virtues and substantial ones too. We do know that distillate spray is a cheap and excellent remedy for scale. We also know that it is very valuable in fighting the mites. But that it will prove effective against the codling moth, is doubtless absolutely without foundation.

* * *

GRANADILLA.

Subscriber asks if the Granadilla is subject to insect attack in this region and wishes to know whether the passion vine is a desirable climber for Southern California. The Granadilla is the large fruit of one of the passion vines, used and much prized in tropical countries for desserts. I have no doubt it would do well in our frostless regions though I do not know of its being grown. Our common blue and red passion flowers are both seriously injured by a common butterfly. The butterfly has rather narrow wings and is rich brown in color dotted with black spots. I presume this same caterpillar would work upon the Granadilla passion flower as well as the others though it is possible it might not. The cut, illustrating this article, was from a drawing made by Mr. Ralph Haines, one of my students. It will enable any one to identify the passion vine butterfly. It is to be presumed that Paris green sprayed upon the vines would protect against this insect. Both our common passion vines are beautiful as climbers, though the fact of this butterfly makes their planting questionable. These vines were a great adornment of one of our Claremont houses a few years ago, but were entirely ruined by the caterpillars of this butterfly.

Geo. B. Warner's... Est. 188

Orange County Nurseries

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Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.

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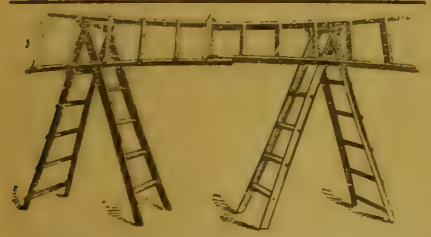

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Pacific Hardware & Steel Co.

401 Mission Street, San Francisco.

Coast News and Notes

BY R. A. DAGUE, ROOM 416, HEARST BUILDING, SAN FRANCISCO

HORTICULTURE.

Corona sent out 36 car loads of oranges and lemons to supply the holiday demand.

The Gregory Dried Fruit Packing Co., of Colton, is erecting a mammoth packing house.

A car load of 30,000 pounds of prunes was shipped to Sweden from Salem, Oregon, last week.

The Chamberlain Canning Co. of Bakersfield, having finished up on fruit, is now canning pumpkins.

The olive pickling plant of Yuba City, Sutter county, is, this winter, doing an extensive business.

A grower near Red Bluff received 10 cents per pound for his crop of 1500 pounds of Persian walnuts.

The vineyardists of Etiwanda are agitated over the importation of vines in their vicinity affected by phylloxera.

The apple growers of the Pajaro valley will ask the next Legislature to pass laws to prevent the offering for sale of wormy or scaly fruit.

Statistics recently completed show Santa Cruz county still in the lead as a producer of apples. That is the banner apple section of California.

The Minneapolis Horticultural Society offers $1000 for a seedling apple tree as hardy and prolific as the Duchess and as large in size as the Wealthy.

The Napa Valley Canning Company is about to begin the erection of a cannery 220 by 240 feet. They are now building a lot of cottages for their employes.

The walnut growers of Goleta, recently acting together, purchased and destroyed a five-acre grove of young walnut trees which were afflicted by walnut blight.

During the season just closed W. R. Keller, representing the Liebbardt Commission Company of Denver, bought and shipped 153 carloads of Pajaro valley apples.

The Santa Cruz mountain districts are becoming famous for raising fine grapes. The lowest price received for grapes from this locality sent east was $1155, while the average was $1681.

Tulare county will exhibit some oranges at St. Louis raised this year that measure 13¼ inches in circumference and weigh 18½ ounces. They were raised by Mr. Robinson, near Cottonwood.

The Department of Agriculture will send a representative from Washington to Riverside and vicinity, during January, to study the decay of oranges in transit. His report will be highly interesting.

Two hundred million of dollars are invested in the grape business in the United States. California supplies the people of this country with practically all the raisins they eat, about 100,000,000 pounds.

It is estimated that Rogue valley, Oregon, will this winter export apples to the value of $125,000. The best varieties sell for $1.00 to $1.50 per box. Pear shipments in the autumn reached 75 car loads, averaging $1.10 per box.

The orange crop of Placer county was harvested, sold and shipped. They brought from $1.00 to $2.00 a box more than the Florida oranges. Central California is making steady progress in orange raising.

"Well, I declare! Another Turkish atrocity."

"Rug, cigarette or massacre?"

Johnny—Say, pa, what is classical music?

His Father—Classical music, my son, is music that you can't whistle, and wouldn't if you could.

J. M. Sharp, a prominent walnut grower, says the walnut output of Ventura county for 1903 will be about 165 car loads of ten tons each, which will net the growers for No. 1 soft shells, about $240 per ton, and about $230 for standards.

A prominent Portland jobbing firm takes a pessimistic view of the prune market. They say: European demand for Italian prunes has been overestimated. We do not believe there will be over 50 cars going to Europe this year, and most of these will go to England. We do not know of a single car going to France.

The production of the Smyrna fig is engaging the attention of California fruit growers, especially in Fresno county. Two farmers of that county are planting 480 acres, now that it has been demonstrated that we can raise as fine a Smyrna fig as comes from Asia Minor. The first experiment in raising that fruit in California was made in 1890.

The Tulare Register, alluding to the fact that the office of County Horticultural Commissioner had been abolished in that county, says: "The large fruit growers will spray and otherwise care for their orchards without any suggestion from a horticultural commissioner, and it is not necessary that three men put in every working day in the year looking after minor interests."

AGRICULTURE.

Seeding in Sutter county is about finished.

For two or three weeks past one and two carloads of hay have been shipped daily from Tulare to Los Angeles.

Senator Foraker, of Ohio, insists that sugar and tobacco should be admitted into the United States free of duty.

The Napa asylum raised in the last fiscal year $19,581 worth of farm products and the Mendocino asylum $9914 worth.

The Union Sugar Factory of Santa Maria closed down about the 20th ult., after a successful season. The company have under consideration the laying out of a townsite near the factory.

San Bernardino asylum for the insane during the last fiscal year produced $26,000 worth of farm and dairy products. Of this sum alfalfa stands for $2400, oranges for $3250, and milk $7500.

There has been for the past two weeks about seven car loads of cabbages shipped to the East daily from the 350 acre farm of Capt. R. S. Thornton and neighboring farms, nine miles south of San Francisco.

A few months ago a factory was erected in Louisiana for the manufacture of cattle food from molasses. The molasses is mixed with corn or oats, then pressed into a solid mass and dried, then ground into meal. Both cattle and horses like it and get fat on it.

A contention has arisen between the alfalfa growers and bee-keepers in Nevada, where large quantities of honey are raised. The alfalfa men say that the bees rob the grass of a heavy per

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and everything for the orchard and garden.

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Navels and Valencias

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DIRECTOR FERTILIZER CONTROL

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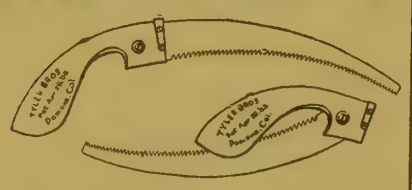

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And is much more useful to the horticulturist. The blade is thin and of the best steel. The long teeth disposed at the proper angle makes it a rapid and smooth cutter. The handle is the right shape. Price $1.00.

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The largest stock of Apricots and Peaches in Santa Clara Valley

Apricot—Blenheim, Hemskirke, Moorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings. etc.
Prunes—French, Imperial and Sugar.

Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop

THE Vernon Nursery

We will offer 100,000 deciduous fruit trees for sale next season

If you are thinking of planting it will pay you to give us a call before placing your order

We are headquarters for all kinds of deciduous fruit trees, nuts, grapevines, berry vines and blue gums

A day spent looking over our nursery will be money well invested

A. YARNELL,

Station K, LOS ANGELES, Cal.

Coast News and Notes

CONTINUED

cent of nutriment. They will ask the next Legislature to protect them from this robbery by the bees. The bee men scoff at this, and contend that alfalfa and clover will not develop properly unless there are honey bees or bumble bees in the vicinity. The bee men are supported by the scientific agriculturists.

LIVE STOCK.

The co-operative creamery of Tulare pays out monthly from $6500 to $7000 for cream.

E. G. Wharton has bought, in Oswego county, New York, 16 head of registered Holstein-Friesian cattle for his ranch in Tulare county.

J. La Franchi owns 500 acres of a dairy farm in Napa county. During the summer he produces fifty-five rolls of butter per week. In the winter about 65 per week.

The Sacramento Valley Development Association is working hard to have a beet sugar factory established in the valley, and the prospects are bright for the success of their efforts.

The dairy product of California amounts to from $18,000,000 to $20,000,000 annually, and the industry is in its infancy. This state is destined in time to lead the Union in dairying.

MISCELLANEOUS.

The new directory of Fresno has been issued, showing a population of 19,215.

Freight charges on flour to the Orient have been cut from $3.00 to $1.00 per ton.

Many scores of ship are still lying idle in San Francisco bay awaiting engagements to carry freight.

An automobile stage service will soon be established between Ventura and Nordhoff, a distance of 16 miles.

The deep gas well of Ventura is now down 500 feet. Four shallow wells are now supplying the town with natural gas.

Santa Clara county will build a $3000 home—30 by 50 feet—at the St. Louis exposition in which to make their exhibits.

There is a fight on between the Pacific Coast lumbermen. Consumers of lumber will rejoice if it brings down the present excessively high prices.

The Farmers' Institue held this week at Pasadena has drawn a large audience and the discussion of farm topics has been exceedingly interesting.

Of the world's hay crop the United States grows 28,600,000 pounds. This is about half as much as Germany and about two-thirds as much as England.

In July, August, September and October the Southern Pacific earned $32,753,907. Deducting operating expenses and taxes the net income for the four months was $10,828,757.

The Supreme Court has decided that a tax for common school purposes must be levied separately from the tax for high schools, in municipalities having more than 1000 inhabitants.

Recently the lighting business of San Francisco passed into the hands of a single company, and now comes the complaint from the consumers that the quality of the gas is much inferior.

President Roosevelt has signed a proclamation announcing that the Government has acquired, from private owners, 44,000 acres of land east of Santa Barbara, and made the tract a forest reserve.

It is said H. E. Huntington is contemplating building an electric road from Bakersfield through Fresno and Stockton to San Francisco. That accomplished, he will have a line from San Francisco to Los Angeles.

The Overland Auto-Traction Company has been formed to operate automobiles between Waco and Paso Robles, a distance of 85 miles. They will carry freight, passengers and mail at about one-third the railroad fare.

Returns to the chief of the bureau of statistics of the department of agriculture indicate that the newly seeded area of winter wheat is about 32,000,000 acres, a decrease of 6 per cent. from the area estimated to have been sown in the fall of 1902.

Many large ranches are being cut up into small ones in the Sacramento valley, but Senator Diggs is urging other owners of large tracts who are still holding on to their broad acres to subdivide and sell small farms to eastern farmers coming in.

Charles McHenry, of Indiana, after a thorough study of California, gives it as his opinion that Alameda is the ideal county. Its climate is not excelled; its soil is productive; it receives each year enough rain fall and not too much, and as a fruit producer it is splendid.

The California Promotion Committee reports that settlers are flocking to this state in large numbers. Many whole colonies are coming in a body from Illinois, Ohio Nebraska, Minnesota and other states. Merced county has gained in a few months over 1000 easterners.

The Pueblo and Beulah electric railroad company of Colorado announces that, beginning at an early date, they will charge passengers 1½ cents per pound. Every one as he goes up to buy a ticket will step onto a platform, and automatic scales will instantly indicate to the ticket seller his weight.

Much irrigation is carried on in San Joaquin valley. It costs about 65 cents per acre per annum. Land values range from $3.00 to $15, without irrigation; alfalfa lands, $25.00 to $50; orange, vineyard and orchard lands (unimproved), with irrigation, from $60 to $100. Irrigated improved farms from $250.00 to $500 per acre.

C. M. Wooster, a director of our State Board of Trade, is an ardent advocate of irrigation. He recently stated that "three million acres in wheat and barley, nonirrigated, last year produced commercially $22,000,000, while the product of 300,000 acres of irrigated land sold for $30,000,000—a very great contrast."

A. D. Pryal, of Alameda county, an intelligent farmer who was awarded a gold medal by the State Agricultural society for hybridized potatoes, says the life of a potato is 14 years. After that it will cease to multiply. Mr. Pryal says the Early Rose, the Peach Blow, and the Burbank have about run their course. A new potato must be produced. Mr. Pryal claims he has succeeded in producing a new variety.

Sacramento county and the municipalities of Long Beach and Vacaville have been sued for an alleged violation of the "Mattern" patent for applying oil to public highways. The Municipal League of the State will ask many, if not all, the counties in California to help to fight this suit, for if the plaintiffs win oil cannot be used on the roads without costing the people many millions in buying the right to apply it.

A villainous trick was discovered and exposed by the fish and game commissioners of Alameda county. Parties caught large quantities of wild ducks in nets in shallow waters and the birds were drowned. Then the owners of the nets, once in 24 or 36 hours, would haul them to shore, and puncture them with wire so the buyers would suppose they had been shot. Some of these dead birds were marketed before the trick was discovered.

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Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
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PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

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Gardena Dewberry

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STRAWBERRY PLANTS

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Arizona Everbearing, Saxton's Noble, Excelsior, Brandywine, Sample P. Corunna. Mexican Gladsione, Gray's Gardena Dewberry, Loganberries and Blackberries.

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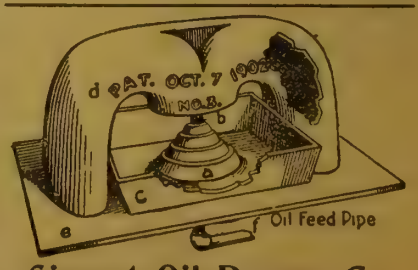

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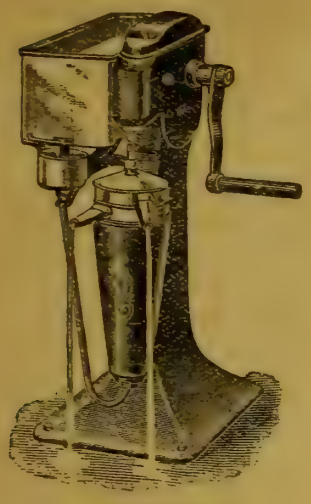

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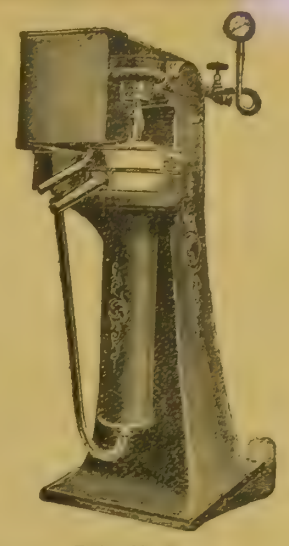

Dairy Turbine

C. H. SESSIONS, ASSOCIATE EDITOR

PICA, OR DEPRAVED APPETITE.

Editor Cultivator: What is it a cow needs when she will eat harness, or leather of any kind, if left within reach? It is not salt, for cows in this section will not eat salt owing, I presume, to the salt fogs that come in from the ocean.—N. E. M.

Put three tablespoonfuls of powdered charcoal in her feed twice a day and place a piece of rock salt where she can lick it at will.

THE DAIRY AND THE ORCHARD.

I need make no apology for bringing this subject to the attention of our readers once more. Stable manure is very desirable in the orchard. True, we can get it at Los Angeles, but it is costly to do so and we cannot know of its value. So much depends upon the feed which the animals had which produced it and the method by which it has been preserved. If the orchardist feeds his own cattle, he can remove both these question marks at one and the same time. Indeed it will pay him best to feed his cattle well, and, if as I believe, the best way to manage the fertilizer is to draw and spread it at once on the orchard, then this method will be pursued as by far the most economical way of handling the stable fertilizers. I know now of three or four who are following this course and every one is enthusiastic regarding it.

May I offer a few suggestions in the hope to aid others who may adopt this policy which I believe is to become more and more common. Be sure to purchase cattle that will give large returns. I should not be satisfied with an animal that would not produce on an average of 20 pounds of milk a day for the entire year. It is also wise to think well and plan well in building barns or sheds for the cattle. Three points must be considered. Comfort of the animal, economy of labor in their care, and such arrangments as shall conserve all of the manure. The liquid manure as well as the solid must not go to waste. It is not difficult nor costly to arrange for all this. One gentelman of Upland who is carrying this suggestion into practice claims good profit aside from the fertilizer and thus an excellent manure is secured as we might say free of cost.—A. J. Cook.

AMERICAN HORSES.

The importation of the American horse into France has become quite extensive. Besides the large numbers purchased for the French army, the introduction of American agricultural machinery into France has created a demand for the horse on the farms, the larger part of which America supplies.

NEED OF STATE ASSOCIATION

The live stock breeders of this State have long felt the necessity of an association to protect and forward their interests. Especially has this been true as the stock interests have increased to proportions which render an association of breeders most valuable to all growers. At the State Fair this year this matter was taken up and has assumed practical form. Local associations are being formed which are auxiliary, or will be, to a State organization. It is a good sign that stockmen are awake to their interests and have made the effort to create an organization which will be of great value to them in the future.

A circular just issued by the United States department of agriculture states that a considerable part of the lamb and mutton handled by the great packing houses and by wholesalers and retailers all over the country is nothing in the world but goat, common goat, the department experts term it.

A clean skin is conducive to horse health as it is to man health.

If the foundation of the stable is getting out of condition, you should fix it at once and prevent its recurrence. The foot is the foundation of the horse in the stable, and its condition must be kept good or there may as well be no horse there.

Variety of food is good for horses, but variety of hours for feeding it is very bad.

Pay $3000 for a stallion if you want to, but first be sure that you can't buy as good a one for a deal less money.

The good horse brings a good price, and good care with intelligent instruction goes a long way toward making the good horse.

Do not couple sire and dam of opposite types or form and expect a symmetrical market-topping colt.

* * *

A handful of hay twisted hard and tight
Is a good horse brush if wielded with might.

* * *

A good nervous system gives vital power, spirit and prompt action without the use of the whip.

Low at the flanks, with narrow space between the ribs and hip. The legs must be well set under the body, front and rear. A mild, full eye is a sign of good disposition.

A straight face line, thin, large nostrils, low windpipe, are all signs of desirable qualities.—Exchange.

DARK HONEY.

British Bee Journal: With regard to very dark or black honey, of which I have, along with many others, a good quantity on hand this season, it may interest you to know that I gave a bottle of quite black honey to a friend of mine to experiment with, with the object of removing the blackness. He subjected the bottle of honey for about three hours to ozone from an electric machine and returned it to me perfectly clear and bright. I have not gone very fully into the matter, but if in your opinion it would be of importance to the craft I would do so. I am told that the cost per hundred weight is trifling.

It would appear that the effect of the ozone is to cause all the black matter to rise to the surface and then it is skimmed off.

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THE BEACON LIGHT OF HOPE

WHAT MILK RECORDS TEACH.

When we observe the various degrees of success attained by different farmers we are sometimes prone to think that a great deal of modern success is simply the result of "good luck," says a writer in the Kansas Farmer. Yet a more thorough study of the methods of the successful farmer reveals in him an essential qualification not possessed by those who are less prosperous. He allows himself to be governed by his previous experience. He observes the work done by various makes of machinery and under all circumstances. He seeds his ground with that seed which has produced the highest yield and best quality of grain. When his crop is ready to harvest he promptly harvests it and as promptly places it where it will be protected from damp weather. Thus by his close observation and by possessing the faculty of putting into practice that which experience has taught him was best, he has prospered where others have failed.

The dairyman, too, must, if he is to be successful, adhere to certain fixed methods. He, too, like the farmer, must be a close observer. He must necessarily weigh and record separately the milk of each individual cow. Further, he must test and record separately the test of each cow at least once per month. These records form a basis of study by which the dairyman is enabled to ascertain which of his cows are yielding him a profit, and at the same time to determine the unprofitable ones. A single month is not sufficient time to test the milking qualities of his cows. He must make a thorough investigation. His cows, like the machines of different makes, may show different results under different circumstances. One cow may give a large quantity of milk immediately after calving while another may prove a more persistent milker. One may produce the largest quantity of milk during the year, while the milk of another may be found to contain a higher per cent of butter fat. Again, one cow may produce more butter fat during the year, while another may produce it more cheaply and thus show a greater profit.

In choosing calves for the purpose of raising dairy cows, a study of the milk record may again be found beneficial. Careful invetsigations have shown that the milk producing qualities of the cow are to a great extent hereditary ,and therefore can be influenced by careful breeding. To obtain the best results, the dairyman should select the female progeny of those cows whose records for producing butter fat have been the best.

Again, by a close observation of the milk record the milk producing values of the different feeds have been determined. Cows are no longer "fed for beef and milk alike," but as nearly as practicable, are fed a balanced ration which has proven to give the best results. The results of any excitement among the dairy cows can be noted by a glance at the milk record. The use of a dog in driving, or even the loud and boisterous manner of the milkman is followed by a noticeable decrease in the flow of milk. Any sudden change in feed, in milkers, shelter, or care results in corresponding decrease in the amount of milk produced.

Half a century ago commercial dairying was practically unknown. Today we find dairying one of the most important and most profitable of industries. Doubtless the milk record occupies no small place as a factor in bringing about this marvelous change. Scientific investigations have been made for the purpose of establishing new and better methods of feeding and caring for the dairy cow. The success or failure of these experiments depended upon the influence on the milk record. If they proved to have the desired effect on the flow of milk they were put into practice, if not, they were cast aside. Thus by adopting the best and rejecting all other systems the yield of milk from the average dairy cows has been more than doubled. And yet progress in the dairy industry has not ceased. Increased efforts are being put forth for further advancement it is generally believed that many lessons are yet to be learned by watching the milk record.

ABOUT CALVES.

C. A. Styles, a practical dairyman, writing of the calf and its care, says in the Farmer's Sentinel: "Don't tie calves up with a rope by their necks, or, worse still, shut them up in a rigid stanchion, but give them some freedom. Remember that they are like children, and are all the better for having exercise. At one year old is plenty early enough to put them in the kind of stalls you expect them to occupy when they become cows, and this, too, is more important than some people think. I have seen heifers that were not used to being confined in stanchions when they were young have an awful time getting used to this mode of fastening. The same thing occurs with cows that have been fastened with chains or straps. They never get used to any other way as well, so, I say, after the calf gets to be a yearling teach her to become accustomed to the mode of fastening you expect to use when she becomes a cow, and you will never regret it.

I have seen different ways of warming milk for feeding calves—from pans on the stove to steam from the factory. Most people get the milk warmed by steam at the factory to feed in the morning. At night heat up one or two tea kettles of water and set it in the can or tub of milk, and it will warm more than you would think. Another way to warm the night's milk is to put the calves' milk in a large washtub and set the can you use to put your night milk in into this tub, and by the time you have finished milking ten cows the milk in the tub will be warmed for the calves.

No matter whether you keep two or fifty cows, part of these cows are better than the rest. The chances are that a good cow will raise a better calf than a poorer cow, so if you wish your herd to improve just raise the heifer calves from the best cows; but if you simply want your herd to increase, raise, as some people do everything, and then wonder why they have so many poor cows."

SHORT BUTTER WEIGHTS.

An Omaha dairy paper has been calling attention, of late, to the fact that butter put up by some dairies is short in weight. Creamery butter labeled, and sold by weight, should of course, holds out in the amount claimed. If it does not, the purchaser is the loser. But the grocer who sells short weight butter, not only lays himself liable to prosecution, but he will mighty soon find his trade going from him. He should test his scales and then weigh the butter, which comes to him from the creameries, and find out if it holds out in the amount claimed. There is too much short weight butter sold in the country, if we are to accept the complaints of the buyers. Butter is high enough at best, to be sold at full measure, but like sugar, it often falls short. In another column will be found an interesting article touching this subject especially to grocers who handle creamery butter.

HEALING BARBED WIRE CUTS.

The treatment best suited to such cuts, which are of frequent occurrence in horses, inclosed with barbed wire fences, will vary, of course, with the nature of the wound. If the wound causes the loss of much blood, the first aim of the owner should be to stanch the bleeding. The ease or difficulty at tending this part of the treatment will depend largely on the location and character of the injury. In some instances it can only be done by the veterinarian. In other instances, however, the owner may do much toward staying the flow of blood. Where a thread or string can be tied so as to compress the ruptured vessel above or below the wound, according as the flow comes from a vein or an artery, the object sought will be secured. The blood flowing from an artery is scarlet in color, and frequently comes in jets, while that coming from veins is darker colored and oozes from the wound rather than coming in spurts. Where the bleeding is less copious, it may sometimes be stopped by applying an astringent preparation, such as powdered alum, which becomes effective through contracting the tissues, which has the effect of closing up the blood vessels. In other instances, flour, cobwebs, or dust have been used, and while they may prove effective in stopping the flow of blood, their presence may work injury and hinder healing. Of course, searing with a hot iron will also be effective, where the blood flow is not so copious. When the bleeding is stayed the wound should be washed. If of a character to justify it, it

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should be stitched together, and if not, no further treatment is required. Healing will be accomplished more quickly in the absence of applications than in their presence, although in some instances an application may be helpful if it has the effect of keeping flies away from the wound.—The Farmer.

PROFIT FROM THE DAIRY.

Much of the success of the average farmer and dairyman depends on the cost of feeding the cows. There are conditions under which it is profitable to conduct a dairy and depend largely on purchased feed, but most farmers are finding their profits from home-grown feeds. As a rule, the more feed we grow on a farm, the more profit we make from our dairy work. It is difficult to raise the price of the product in the market, but we can often increase our profits by cheapening the cost of production. The most of us are buying too much grain feed while our farms are not producing more than half of what they might be made to yield under better management.

Under conditions as they exist in most sections of the country, feed can be grown more cheaply than it can be bought.

We have learned that some things are not so. It is not true that cows require a scientifically balanced ration to prove profitable. We know that the high amount of protein called for in the balanced ration of the scientists is not a practical necessity. It is easier to buy feed than to grow it, hence we buy. Is it not time that we stopped looking for an easy job and began looking for a profitable one? We need cheaper cow feed; we can get them by growing them. One of the most practical and successful dairymen in Maine has succeeded in reducing the annual cost of keeping his cows to $15 a head. This does not include the labor of feeding and caring for the cows, but is the actual cost of the food consumed when all grown upon the farm. Here, then, is the keynote of success in the feeding problem. What this man has done others can do if they will.

We have depended too much on hay and purchased grain for feeding our domestic animals of all kinds. There are crops that yield more feed at less cost than the hay crop. Many of these crops are as easy to grow as the hay crop, yet we cling to the old habit, and neglect to grow them, all the while knowing we might do better if only we would. Oats, corn, Hungarian oats, peas, sweet corn and many other things are all good and profitable. While the limits of this articles will not permit a discussion of their merits, it may be stated as a fact that it will prove more profitable to grow and feed any or all of them than to buy the same food value in the market.

Supplement the pasture with sweet corn next year if you want to know what a cream maker it is. Fill the silo with well-matured corn. Grow five acres of peas and oats, and cut when well-matured, but not fully ripe, and feed unthrashed. This feed will make more cream or butter than the best clover hay that ever grew; besides, it is much easier to grow and more convenient to cure and handle.—Tribune Farmer.

Wash the milk bucket in cold or tepid water before scalding. Soda added to the washing water makes it more effective.

Clean pastures make clean feed, and clean feed makes sweet milk and cream, and these make nice, sweet butter. Try it.

GROOMING DAIRY COWS.

Have regular hours for grooming your cows. Many people do not realize the importance of giving cows a thorough brushing every day. Often I have seen the flanks covered with a coat of dried excrement. Every motion the cow makes disloges some of this filth. Every time she switches her tail during milking, every motion of her legs, and every rub and brush of her body by the milker dislodges particles of this material which is sure to fall into the milk pail. All of this filth is crowded with bacteria (germs) in excessive numbers, and these find their way into the milk during the whole of the milking. Always moisten the udders with a damp cloth previous to milking, and a good brushing each day will keep the skin clear and healthy, prevent diseases, and well repay the labor bestowed, besides making the cows more comfortable and contented. A stiff brush made of broom corn is best.—Up-toDate Farmer.

CARE OF MILK.

The milk should be kept clean and wholesome by a system of safeguards observed during milking, in the milk house, and while the milk is in transit from dairy to consumer. The precautions observed during milking should be, special suits for milkers, careful washing of the hands after each cow is milked, milking into sterilized dairy pails after the cow's udders have been washed. The fore milk, as the first milk that is drawn is called, should be discarded and when the milk is drawn it should be taken to the milk house immediately.

The milk house should be separate from the milking barn and should be in charge of an attendant who should be attired in a special suit while handling the milk. It should be this person's duty to receive the milk from the milkers in order to avoid the necessity of the milkers entering the milk house. He should confine his work during milking hours exclusively to the milk house and should avoid going into the milking barn. In this way the milk house is isolated from any outside influences and in it the milk can be handled without much danger of becoming contaminated. The milk, being received from the milkers, is strained and cooled, after which it is bottled and prepared for shipment. Every utensil, such as pails, strainers, coolers, tanks and bottles, must be made scrupulously clean and sterile, if possible, by exposure to live steam under pressure. The milk house as well as the milking barn should be thoroughly ventiliated and no employe of the dairy should be permitted to enter them, other than the regular attendants who milk and handle the milk.

The well equipped dairy should also have apparatus on hand so the milk of each individual cow can be periodically examined to determine if she is giving proper returns for the amount of feed she consumes. There is no animal that will give greater returns for feed consumed than the good dairy cow, consequently it should be the aim of every dairyman to first, procure good cows, and second, to give them first class feed judiciously mixed and supplied. Then if he follows out our suggestions regarding cleanliness in handling the milk, he will be able to place a product in the hands of the consumer that does not have to be "doped" with preservatives to keep it from souring, but he can guarantee this milk to remain sweet and wholesome for three or four days. Under present methods of producing milk, the producer is lucky if he can get his product into the hands of the consumer before it turns sour and unfit for use.—Dr. Archibald, in Live Stock and Dairy Journal.

NEW BLINDER FOR HORSES.

A folding blinder, which can be dropped down over the horse's eyes like a spring curtain by merely pulling a cord, has been invented by a Nebraskan as a means of controlling scary and vicious horses. The presence of the blind is never obtrusive when hidden away in a casing over the browband of the animal's bridle. The blinder comprises the casing or housing, curved to conform to the browband and fastened to the bridle by suitable straps. This contains a bellows-folding curtain or blind, which is normally held in place within the casing by means of spring clips. The curtain is operated by a cord secured to the lower ends of the curtain and passed through the bit rings and then back to the saddle or hip straps of the driving harness, within easy reach of the rider or driver. The moment this curtain is drawn down in front of the horse's eyes he becomes quieted and can be secured and led away from danger.

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Don't milk a cow before she calves.

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WOMAN'S WORK IN THE POULTRY YARD.

"The price of eggs has been so high for the last three months, it is almost like eating gold" said a careful housekeeper to me a few days ago.

This is true from Maine to California, eggs are dearer than even before and the prospects for consumers are still gloomy, for there is a shortage of eggs all over the country and worse still, a shortage also of hens to lay them. With a few execptions the egg yield for the past two years has been less than usual and the fertility of the eggs in the eastern and middle states has been unusually poor. One correspondent writing, says: "out of 786 eggs set I hatched 168 and raised 112." Consequently there are less hens now than there were two years ago and unless we have a better season this spring we may expect a continuance of high prices.

"Why don't the hens lay, and why are the eggs unfertile?" asks a correspondent. I wish I could tell you. When I was a child we used to have occasionally a bad season, and as well as I can remember it was usually a wet summer that brought disaster to the chickens, and that may be one of the reasons for the poor fertility and unsatisfactory hatches east of the Rockies, but surely not here in our glorious climate. I read lately a very interesting article on the sun spots and the effect they have on the health of people and it occurred to me that we might lay it to the sun spots, especially as all the large poultrymen in the east are both perplexed and troubled and cannot decide what causes it nor how to remedy matters. One party suggests that we are now reaping one part of the results of forcing for eggs production, but I doubt this as the trouble has been all over the country and I am sure forcing for eggs has not been very general. The hens in the east have been on the strike and I am afraid they have sent some walking delegate here! One word about shipping fowls from the east—don't do it—get eggs if you must have an experiment with eastern fowls, I have tried it and so have some of my personal friends and found it a failure.

* * *

But to return to our subject, how are we to get fertile eggs and good hatches? I have hatched eggs successfully every month in the year in California, I did it as an experiment. I found the fertility greatest in March, April and May, lowest in December and January. I have had good strong hatches in October and even in the early part of November. I have had eggs cook under the poor hens in August, but I also raised a nice brood in August, but I found that pullets hatched in October began to lay as soon as those hatched in August and were more vigorous. So what was the use of having two extra months of care and feeding? I usually started my first incubator the first week in October. Had a good hatch, kept on hatching as fast as I had eggs after that. Always expected poor hatches in December and January, partly because I had just mated up and I found the newly mated did not always like their mates, partly because they were still making new feathers, and partly on account of sending them to the poultry show, it was so different to their own comfortable home, it tired them out and for at least two weeks they did not really recover and take to laying again.

I found also that when the male bird is moulting, or rather when his new feathers are sprouting, the eggs are very unfertile.

* * *

First let us decide that to have the eggs fertile the fowls must not be moulting, but must be in vigorous health, especially and particularly the male. Secondly they must have all the green food they need, that is at least half of their fare, if the yolk of the egg is light colored the fertility will be poor and the chicks will lack vigor. Green food is absolutely necessary for fertility.

One other reason for lack of fertility is a fault that can be remedied in the future and that is "over-crowding." Farm Poultry has an excellent article on "Don't bite off more than you can chew." It is so easy to set three or four incubators, and a big lot of little chicks look so cute; then you set the incubators again, and pretty soon you have machines just set, some half through, some hatching and chicks of all sizes everywhere, not to to mention feeding stock. It is more than you can handle; something is left undone—and, well, we all know the rest. My advice is "don't bite off more than you can chew."

If you go it alone do what you can and do it well. If you hire a man lay out for him only as much work as he can do, and do well, and insist on his doing it, and doing it well. Also to go a little farther treat your pocket book as recommended for the hired man or yourself. Don't for pity sake, "don't bite off more than your pocketbook can chew."

* * *

In mating for this season's breeding there are two things of great importance in the American class, and I usually write about those classes because although I have successfully raised thirteen or more other breeds, I consider the American breeds are the utility fowl for America. The two things in breeding I consider of great importance are size and vigor. It is my experience that weight tends to decline.

It is a simple matter to keep it up, only it cannot be left to take care of itself. As for vigor, it is easier to get this right than not. Cleanliness and exercise with healthy stock will give the requisite vigor.

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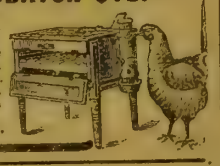

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ANSWER TO QUESTIONS

"Do you consider coal ashes sifted fine good for a dust bath for fowls? Will it injure the feathers?" Please reply through Cultivator.—A constant reader.

I do not like ashes for a dust bath, because the ashes absorb a great deal of the oil from the feathers and skin, rendering the feathers brittle and not glossy. An absolutely dry dust bath is not as good for fowls as one that is slightly moist. They will wallow in dry ashes when they have nothing better, but their choice is a slightly moist mixture of sand and loam. This removes dirt from both skin and feathers and keeps them in fine condition. It should always be borne in mind that the first function of the dust bath is for the general cleaning of the skin and plumage. The destruction of vermin is only an incident in the bathing process.

* * *

Editor Cultivator—Will the old saying, "Do as the Romans when in Rome," apply to chicken houses in Southern California. Ninety-nine out of one hundred of the chicken raisers in this section have open lath houses for their chickens and yet all the poultry journals advocate tight warm houses to prevent many of the chicken diseases.

An answer through your valued paper will be much appreciated by—N. E. M.

Doctors differ even in Southern California and poultry men also. I have been experimenting for several years with tight houses, houses open on one side, houses with top ventilation and with bottom ventilation and finally I think I have decided that the "mushroom" house is as well adapted to this climate as any. In fact I have sold out of the poultry business (on account of daughter's health) and have reserved only a dozen hens and two mushroom houses.

Fowl in this climate cannot stand a draught. They are sure to get cold from it, and the narrower the draught the more dangerous. Human beings in this climate also will soon be afflicted with neuralgia, earache, colds and rheumatism if subjected to a draught so with fowls it is the same, plenty of fresh air, but no draughts, not even a crack. If you do not like mushroom houses, I would advise a house open on one side, and let that one side be the west side, so the wind will not blow across them. Tight warm houses are not suitable for this climate.

Half-fed fowls never pay, whether kept for the table or to produce eggs. A fowl cannot get fat for table nor produce eggs on little or no food. A hen producing eggs will eat nearly twice as much as at any other time.

To feed poultry requires both judgment and constant attention; and since these are far from being general attainments among poultry men, hence the unsatisfactory state both for themselves and their fowls. I know of no other business in which the neglect of little things is so disastrous as in the poultry business.

WEALTH IN HENS AND EGGS.

Already the poultry products are greater than the output of the iron furnaces, twice the value of the wool clip, nearly four times the silver product, surpassing all other agricultural industries; is not this sufficient evidence that if the farmer's hen accomplishes so much under existing conditions, her usefulness would be nearly doubled by better breeding and more rational feeding. Suggestions to the considerate reader should suffice.—Farmer's Sentinel.

LICE ON POULTRY.

Dr. Smead, a well-known veterinarian in the New York Farmer, has the following about lice on poultry:

"Now, I am going to ask a question and answer it myself. Why is there any more sense in a hen being tormented with lice than a horse or any other animal? The answer is there is no more sense in one case than the other. The lice on every domesticated bird or beast we have no use for, and there is no sense in allowing them to exist. Now I am in it. I have got to tell how to get rid of the lice on the hen or own up and slink out. Well, I shan't slink out. A pound of pyrethrum powder (called also Persian insect powder) costs about 40 cents; a small hand bellows costs on the 10-cent counter of any store 10 cents. Thus we have a 50-cent outfit and lice killer enough to destroy as many lice as the proposed barge canal will cost the taxpayer dollars, and that is not a few. Now comes the worst feature of it all. The hen will have to be caught, and that means labor; and the hen labor most men abhor. Some, I know, have a horrible cold, or an awful lame arm, leg or back, every time the good wife suggests that the henhouse needs cleaning. It, as a rule, would not take 30 minutes' time once in two weeks; but it is such trying work that most men fear an attack of pneumonia or lumbago if they should tackle it. So it goes uncleaned, and the old hen spends a sleepless night from lice torment; has croup from the gases arising from her own dung, and gets cursed for not laying eggs and for leaving the nest before the chickens hatch. I am not applying this to your case; but am telling for some fellows I know. It is a little work, with a common sense application of the insect powder to the old hen that brings comfort to her and puts eggs in the nest. Yes, brings peace all around and profit in plenty.

"The old bird must be caught and the powder thoroughly dusted through her feathers—yes, thoroughly. I want the nail thoroughness driven into the brain of every man who thinks enough of this to try the prescription. Her wings must be raised and a puff and several puffs given of the powder right there. Yes, every part of her body must be saturated with the powder. In a week give her another powdering. There will be funerals in the louse family; but there will be happiness in the hen tribe; with a nearby crowing and cackling; with a full nest of eggs shortly to follow where none had been for weeks."

THE EGG AS FOOD.

The egg is a popular and a nutritious food of high value. The season for eggs runs from April 1 to July. The dullness in the fresh meat line at that period is the result of the egg and meat competition for the table. The extent of the spring competition of eggs with fresh meats may be gauged by the fact that from about the middle of March until June 15 there are about 750,000,000 eggs handled daily by the jobbers of the United States, says Poultry Review. For the season of 90 days named that would amount to 67,000,000 eggs. The egg season furnishes an overproduction for consumption. The surplus, however, finds its way into cold storage for fall and winter use.

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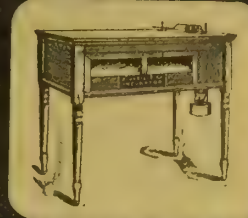

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Indian Runner Ducks
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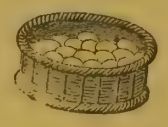

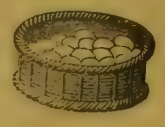

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BY ERNEST BRAUNTON, LOS ANGELES, CAL.

A WORLD-FAMOUS AVENUE.

Editor Cultivator: The Home Improvement Society of Pomona is improving the streets of a certain part of the city. One of those streets, running east and west, is Fifth avenue, 100 feet wide, and the section to be improved is some three miles long.

There are now various trees planted, such as Montrey pines, peppers, umbrellas, etc. How should this organization proceed to secure best results, and if uniform planting is desirable, what tree is best?—S.

Oh, that the residents and owners of Fifth avenue, Pomona, realized what a privilege is theirs! In this case is presented an opportunity to make an avenue which, in a few years, would be known all over the coast, possibly in every state in the Union. Doubtless many of the members of the above organization are fully aware how sacred the trust reposed in them; would that each and every one were fired with the proper amount of zeal and energy to properly carry out this grand work. But space is valuable; though a whole issue of the Cultivator would be far from wasted could it be the means of procuring the proper planting of this avenue. The writer would like to fill a column with reasons why this planting should be uniform throughout, what to use and why, but it cannot be. We must "get down to hard pan."

The first step in the work is to bring the property owners along this street to a realization of the immense importance of the contemplated planting. This can probably best be done by calling a public meeting for the purpose, have stirring addresses from good talkers who are interested. Enthusiasm counts for everything in this work. Every property owner, more especially those whose property already has street trees, should be won over. All existing trees should be taken out and the avenue planted for the whole distance with one kind of tree. After thoroughly discussing the different trees, a vote should be taken (by the property owners only) and the tree receiving the highest number of votes should be used. If this is found impossible, agree upon another one. It is not so essential that any certain tree should be used as it is that there be but one kind planted. (Read this department in the issue of December 11th.)

* * *

In the writer's estimation the live (Quercus agrifolia) is decidedly the best tree to use; they can easily be procured at reasonable cost and as they need to be planted far apart the total cost will not be great. I have before me a quotation of oaks eight to fourteen inches high, in three and four-inch pots, at twenty-five dollars per hundred. Three miles of street with a tree on each side every fifty feet would take, with a few extras for replacing, six hundred and fifty trees, at a cost of one hundred and sixty-two dollars and fifty cents. In such large quantities they can, no doubt, be bought for less.

Oaks should not be planted closer than forty feet apart, fifty is better, with the trees on the street where the lines of fifty feet lots would intersect; between these could be planted something for temporary effect, or two flowering shrubs, like the crepe myrtles. These could be taken out when they interfere with the oaks, though many years would elapse ere it became necessary.

Many people think, because the oak, in its native habitat, is slow of growth, that it is necessarily so, but such is not the case. If properly planted, and left to themselves, they will double their wild growth; and, if properly watered, will grow ten times as fast as under natural conditions only. In such an important plantation it could, no doubt, be easily arranged to give them a uniform watering from one to three times each summer for two or three years.

The writer would reserve making an absolute second choice unless he could view the scene, examine the soil, etc. The Victorian bottle tree would, no doubt, prove very satisfactory, perhaps the next best. If not the bottle tree, an acacia or eucalypt would better be used, unless a deciduous tree is wanted, which would not be proper in this climate. There are many trees which would do finely, but are not available in sufficient quantities. The writer would like to keep in touch with this matter either through this department or by correspondence.

NEW KINDS OF VEGETABLES.

The Department of Agriculture is making experiments with many new vegetables which are expected to prove useful to this country, if the people can be persuaded to grow them, says the San Jose Mercury. Its explorers are fetching them from various parts of the world, especially from Mexico, which is known to possess many food plants that would be of much value if introduced into the United States.

Among the available Mexican vegetbles are various kinds of peppers and several species of tomatoes which are unknown to us. For example, there is the "husk tomato," which is about the size of a horse-chestnut, and is contained in a sort of detachable rind that is removed when the fruit is ripe, as a preliminary to cooking it. It is not good raw, but is said to be excellent when stewed or fried. The Mexicans preserve it as a sweet pickle.

Then there is a brand-new kind of cucumber, which is quite an oddity in its way, inasmuch as it explodes with a loud report when ripe, throwing its red seeds to a distance. Its chief use is as a medicine, but the vine on which it grows is so handsome as to be desirable for gardens. More valuable is a giant okra, lately obtained from Europe, which has pods five or six times the ordinary size. Soon, doubtless, it will be commonly grown in this country, and will be obtainable in our markets. It has a delightful flavor.

Another European vegetable which Uncle Sam wants to introduce is the tuber of a plant that looks a good deal like marsh grass. It is only about as big as a hazel nut, and when eaten raw resembles cocoanut in flavor. This is called "chervil," and may be cooked in a variety of ways. The plant is a kind of sedge.

Special attention is being paid to the cultivation of new pot herbs on the experimental farm which the government maintains near Washington, and the seeds of the best of these, when a sufficient supply has been obtained, will be distributed to farmers and gardeners. Notable among them is a plant from India, called "basella," which bears fruit that looks like little blackberries. It is a vine, has pink blossoms resembling those of the arbutus, and is said to be delicious.

It is always difficult to persuade people to eat new things—a fact of which the common tomato, which a generation ago was considered poisonous in New England, affords a familiar illustration. Nevertheless, every new vegetable is an important addition to our happiness and welfare, and even a novelty in the way of a pot herb is a contribution not to be despised by those who appreciate a well-flavored plate of soup or dish of stew.

ZANTE CURRANTS.

Zante currants, insignificant as they may seem, are just now making a great stir in the world. The peasants of Southwestern Greece, where most of the currants are grown, are almost in revolt because the government delays granting to a certain company the exclusive control of the growing, gathering and selling of the fruit. They believe that the living of the currant-growers depends upon this monopoly, which seems to reverse the order of things as they are in this country. And, strange to say, it was only recently that these currants made a stir in quite another way. A disease of the vines made necessary the use of so much sulphate of copper in spraying them that the scarcity of that chemical seriously affected the price of electrical fittings everywhere, for the fittings must have the sulphate.

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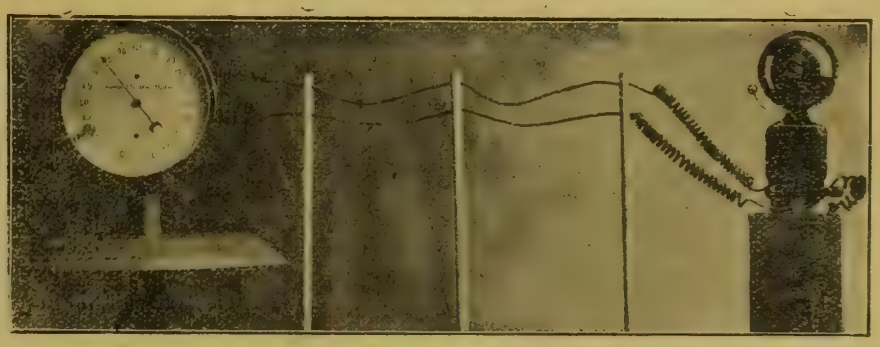

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(Continued from first page)

half-long canes should be tied up to something or the load of fruit will be liable to break them off. If the vines are well balanced, they may be tied together, but if the vines are lopsided, they may be tied to a stake. Some varieties do not require more than three buds, though the quality of the soil determines this to considerable extent. For instance, Malaga does well with about four buds on ordinary sandy soil, but if it is planted on rich land, it will require more buds.

There are some varieties of grapes that require canes that vary from six buds in length to the entire length of the canes. The reason often is, that the buds sent out within a foot or so of their base do not produce fruiting wood. It is therefore imperative that the canes be left long. This is the third style of pruning and is done on the same principle as the half long, except that the canes are left entire or are cut back very little, and the spurs left at the base are given two buds instead of one. Reference to Fig. VI gives the idea.

* * *

If long pruned canes are tied up straight, the chief object in long pruning will be lost, for the buds near the top will make a vigorous growth and the buds lower down will not start. If the canes are bent in the shape of a hoop or even extended horizontally, the flow of sap will be retarded and all or most of the buds along the cane will send out shoots that will include the bearing wood. Fig. VII shows the method. Fig. VIII shows the method of training the canes on horizontal wires. The stake is convenient to tie the growth to that comes up from the spurs. This allows the tops to be cut from the fruiting canes if it is desired to thicken the shade or get rid of the surplus growth which draws on the fruiting energy of the vines. In any event, a rather short bend should be made at the base of the cane so as to retard the flow of sap, which has a tendency to promote fruitfulness. When the vines are tied up to a stake, this is best accomplished by tying the ends of the canes first down near the crown of the vine and then press down on the bows and tie them to the stake.

* * *

The remaining three styles of pruning are the same as those just described, except that instead of a perpendicular trunk with one head, there are several heads or crowns on a horizontal trunk. The start at the first year is the same as with the other methods of pruning, but ultimately, each vine should reach the adjoining one as shown in Fig. IX. Buds are selected at intervals of a foot or so, with which

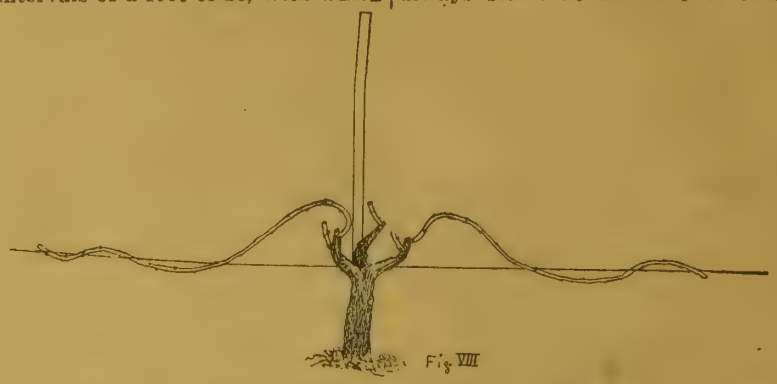

Fig VIII

to start individual heads. Some varieties require short pruning on these individual heads, others require half-long and still others long pruning. It is necessary to train vines on wires as shown in Fig. IX, when the trunks are trained in a horizontal direction. For short pruning on such a vine, but one wire is necessary and it should be about 18 inches from the ground. When half-long or long pruning is practiced, two wires are required, one for the

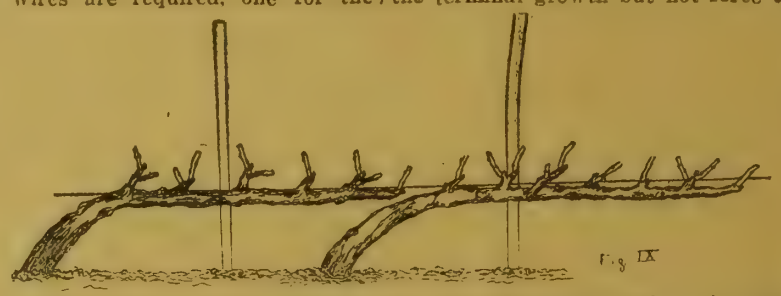

Fig IX

trunk and the other to tie the long canes to. These canes should be bent in the shape of a hoop or bow to force them to send out branches all along the canes or else the object being strived at, more bearing surface, will be defeated.

In our judgment, the three last described methods of pruning are the proper ones for the Coachella district where cuttings start roots and make what are practically two year old vines, the first season. No. 12 galvanized wire is about the proper material for trellising.

Considerable work is required in the spring and summer in starting a young vineyard, in keeping off suckers, water sprouts and topping or pinching back the ends of long shoots. If sprouts are allowed to mature on the trunks or branches of vines, much trouble will follow as a cluster of buds always forms at the base of such a growth. The sprouts may be removed with a close cut at pruning time, but sprouts will continue to start out at such points. The chief loss, however, is in the drain upon the vine by such sprouts during the growing period. Topping of the vines should be done when the tips are about 18 inches from the last bunch of grapes or bloom. One object to be kept in view is to top at the time which will stop the terminal growth but not force out the buds below the fruit or too many laterals beyond the fruit. It is sometimes necessary to top a second time in sections were the growth is very strong or where it is an object to furnish much shade for the fruit.

The cuts used in this article are taken from Bulletin No. 119, issued by the Agricultural Department of the State University.

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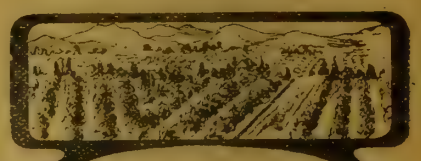

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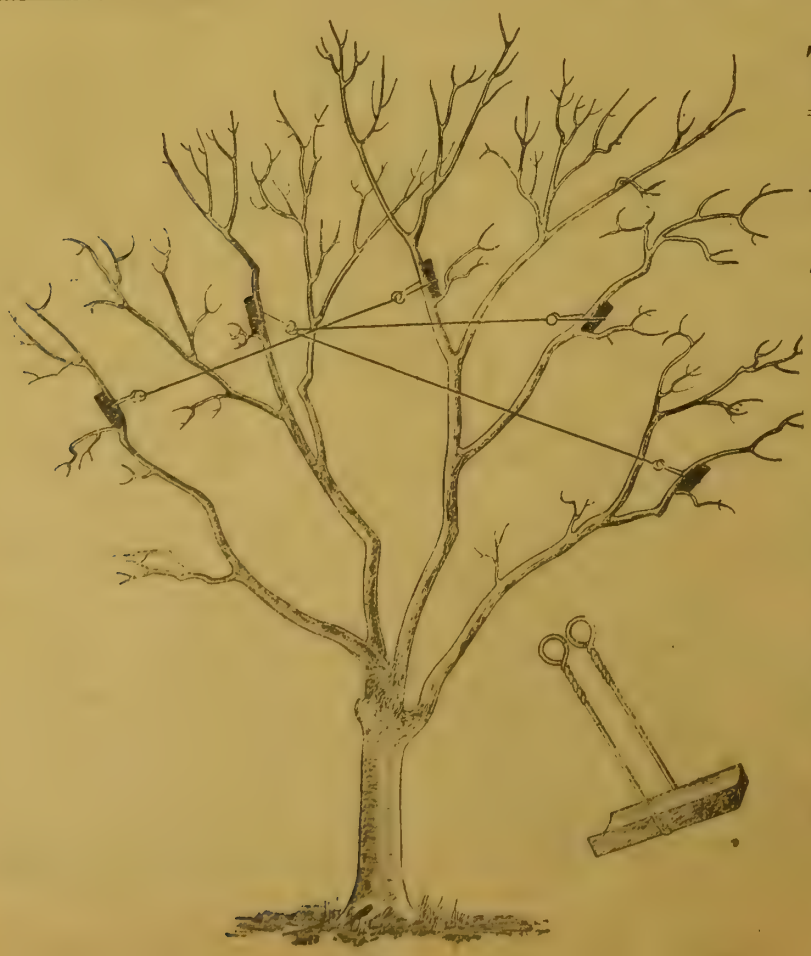

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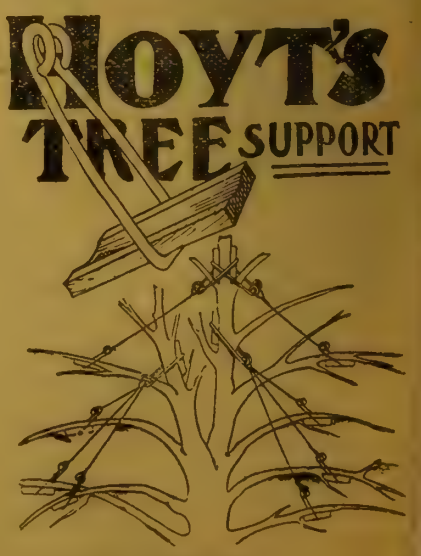

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Do they miss me at home—do they miss me?
'Twould be an assurance most dear
To know that this moment some loved one
Were saying: "I wish he were here!"
To feel that the group at the fireside
Were thinking of me as I roam;
Oh, yes, 'twould be joy beyond measure
To know that they miss me at home!

When twilight approaches, the season
That ever is sacred to song,
Does some one repeat my name over,
And sigh that I tarry so long?
And is there a chord in the music
That's missed when my voice is away,
And a chord in each heart that awaketh
Regret at my wearisome stay?

Do they set me a chair near the table,
When evening's home pleasures are nigh,
When the candles are lit in the parlor,
And the stars in the calm azure sky?
And when the "good nights" are repeated
And all lay them down to their sleep,
Do they think of the absent, and waft me
A whispered "good night" while they weep?

Do they miss me at home—do they miss me,
At morning, at noon, or at night?
And lingers one gloomy shade 'round them
That only my presence can light?
Are joys less invitingly welcome
And pleasures less hale than before,
Because one is missed from the circle,
Because I am with them no more?

ARMSTRONG'S CHANCE.

"Joe," said the superintendent of the Montezuma Copper Company, "you're to take the Kitty mare and go down the road until you meet Manuel Gonzalez's outfit. He started from Lordsburg six days ago, so you ought to find him about York's ranch. Just notice particularly where you meet him, and ask him to hurry up. He's got some flour we need."

Joe Armstrong had been looking for this order. Ever since he had been taken into the employ of the company he had been sent on these missions. Invariably three or four days before the end of the month he and the Kitty mare had been sent galloping down the Lordsburg road to meet this freighter or that and tell him to hurry up.

It was 80 miles to Lordsburg, and all the company's freight had to be drawn in ox-teams from the railway at that point.

The humor of asking that an ox-team hurry was not lost on Joe. He knew it took eight or ten days for the plodding cattle to drag the great wagons across the desert and over the hills, and he knew, too, that there was plenty of flour in the warehouse.

But Joe Armstrong also knew enough to hold his tongue and obey orders.

It was not that the mission displeased him; on the contrary, he was delighted—what healthy boy would not welcome the change from the dull routine of the company's store to a ride on Kitty?

It was sunset when he reached York's ranch, where he stopped for supper. There were three other travelers at the ranchman's table. One of them he knew. Mr. Lampson had been a bookkeeper in the company's office and had been discharged for a reason Joe had never learned, and the two strangers were in his company.

"Going to stop over, Joe?" asked Lampson, as they stood at the washing trough.

"Why, no, Mr. Lampson," answered the boy. "I've got a bit of business down the road. It's moonlight, and I guess I'll push on a way. Are you going on?"

Lampson thought not and changed the subject, and the bookkeeper and his two companions were still at York's when Joe saddled up and started on.

Kitty, fresh from her rest and feed of grain, was in as good trim as if she had not already come a score of miles, but Joe would not let her gallop.

Soon she found her stride, the long, swinging lope of the cow ponies that he knew she could hold for 50 miles, if necessary. The brilliant moon almost directly over head cast a shadow like a purple blanket. Except for the hoofbeats there was no sound.

Joe loved to ride at night. He knew every inch of the way, and each tall, branching cactus that stood out in the moonlight was as good as mile posts to him.

Soon he noted a shadow in the brush by the road side keeping pace with him. Half a mile farther a companion shadow on the other side of the road drew his attention.

He knew that they were wildcats, obeying the same instinct that makes their tame congeners follow a man in the city streets in the moonlight. He knew he could send them scurrying away into the brush with a shout, but with the habit of those who live in the wild places of the earth he had no desire to molest anythong that did not molest him. Besides, the leaping shadows were company of a sort, and their presence was a guarantee that no larger savage beast or savage man was near.

Joe lost the companion shadows at the Gila river when he and Kitty splashed across it.

He had not yet found Manuel Gonzalez's train of ox-teams, but he knew they must be comparatively near—probably camped at the spring half a dozen miles farther on. There was nothing to be gained by coming upon them at this time of night. There are certain rules on the frontier, as in the cities, as to breaking a tired man's sleep unnecessarily. So Joe decided to camp near the river and hurry on at day-break with his message.

He unsaddled Kitty and turned her loose to graze in the river bottom, knowing that she would remain close by. Then, finding a place where the brush was thick enough to screen him from sight of the road, he broke through this leafy wall.

A branch used as a broom sufficed to obliterate the tracks that showed a ride had ended there, and behind his screen of mesquite brush he lay down to sleep, his saddle for a pillow, the soft earth for a bed. He needed no covers, for on that high mesa of the Gila there is no dew.

A city boy might wonder that he took pains to hide himself from the road and to disguise the traces of his camp, but to Joe it was as natural as it is to the town-bred lad to lock his bedroom door at a strange hotel.

Joe said his little prayer, taught him by the mother whose death had left him to make his way alone two years before, and closed his eyes. A boy is not likely to forget his prayers when the only roof above him is the sky, and every star seems like a bright eye seeing clear through him. Joe did not have to wait for sleep; he was off as soon as his eyes were shut.

Suddenly he was broad awake again. The moon was gone, but the stars were still shining, and by them he knew day was yet far distant. A moment to collect his wits, and Joe was conscious that somebody was talking on the other side of the bushes. The first words made him all attention.

"Gonzalez's outfit," he heard the voice say, "will come on as soon as it is light, and we had better meet him right here. To strike him tonight might make the bull-driver suspicious, besides, that boy Joe knows I'm not with the company any more. I want to get the money without having to hurt anybody."

"But, say, Lampson," Joe heard another voice, "won't the boy be there just the same in the morning?"

"Not a bit of it," said Lampson, "He'll just give Gonzalez his message and start back. He doesn't know why he is sent. Nobody but the Lordsburg agent and the superintendent is supposed to know there is $25,000 in bills rolled up in a bale of blankets. That much comes every month to pay off the men at the mines on the first. The company is afraid to send it by the stage, for the stage is held up by the rustlers too often. Nobody would ever think of hunting through the freight for the money. The freighter himself hasn't an idea what he is carrying. They have been doing this for a long time and have never had any trouble, but the boss can't help feeling a ilttle anxious, so he always chases the boy off down the road to make sure where the money train is."

Joe's first impulse had been to shout a greeting, but as the words reached him he realized in a flash what they meant. The mystery of his monthly mission that had so puzzled him was a mystery no longer.

"I don't see why we should have a bit of trouble," said Lampson. "I'll just tell Gonzalez that the company is in a hurry for the blankets for some prospecting parties, and has sent me with the buckboard to fetch them on ahead of him. He knows me from seeing me in the office, and will probably not ask a question."

"But," asked one of the others, "suppose the boy has told him you were thrown out?"

"If I can't convince him the boy lied, we will have to make a 'gun-play.' Now quit talking. We'd better all get some sleep."

Soon there was silence, broken only by the regular breathing of the three men.

So cautiously that not even a rustling leaf betrayed him, Joe raised his head and peered through the bushes. He saw three men lying asleep, the buckboard standing at the side of the road, and the horses unhitched and picketed by it.

His first thought was to slip the stake ropes and stampede the horses; but he realized that the sleepers might be awakened by the plunging animals, and the thought of what they might do in their anger made Joe feel lonesome for the first time.

As silently as a fox stalking a wild fowl, Joe skirted the cleared patch and made for the river bottom. He was soon beside the Kitty mare. There was an anxious moment when he was afraid Kitty would greet him with a neigh, but she only raised her head from the tall grass and put out her nose to be petted.

He had ridden her bareback as often as with a saddle, and in a moment he was on her, making his way by a wide detour past the sleeping men. As soon as he was beyond ear-shot he gave Kitty her head and sped away.

His idea had been that all he had to do was to tell Gonzalez of Lampson's plot. Now the words of Lampson himself occurred to him. "Nobody is supposed to know the money is there but the agent at Lordsburg and the superintendent." It was the company's secret, and Joe dared not betray it even to the freighter.

At last a sparkle far ahead showed him the embers of a dying camp-fire, and soon he was near enough to make

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out the big white prairie-schooners. He had found Gonzalez's outfit.

The voice of timidity whispered that he might discharge his commission with safety to himself. All he had to do was to deliver his message to the freighter as it was given him, turn around, and gallop back home and say nothing of what he had overheard by the river. The company would lose $25,000, but nobody would blame him.

But another voice—the voice of duty—spoke louder, insisting that taking care of himself was not all he was there for.

"The boss wants you to hurry up; he needs that flour," said Joe to the head freighter, when he had roused him.

Gonzalez grumbled at being wakened for such a message; but he was too sleepy to blame the boy, and finally told him he had better spend the night with them.

"I'll sleep in the wagons if you don't mind," said Joe, to whom a plan had occurred.

"Just as you like," yawned the freighter. "There's a big bale of blankets back in the trailer."

So Joe tethered Kitty to the wheel of the trailer and crawled in on top of the blankets—a rough bale covered with burlap and laced with ropes.

Before dawn he got a cup of coffee from the camp cook, borrowed a saddle, and with a bundle rolled in his coat and tied on behind, started on his long ride home, while Gonzalez and his crew were yet yoking the oxen to the wagons.

Five miles up the road Joe met Lampson and the two big men rolling along in the buckboard. His heart stopped beating until he was past, but the discharged bookkeeper merely waved him a greeting.

Joe galloped on. He felt safe enough now to chuckle at the scene that would be enacted back there, when the robbers, after carrying off the heavy bale, would open it and find nothing.

Kitty was a very tired mare when she brought Joe into town that night.

The superintendent hailed the boy as he rode up to the office of the copper company: "Did you find Gonzalez?"

"Yes, sir!" shouted Joe. "He said he'd hurry." Then Joe pulled his coat from behind the saddle, handed over the bundle of bank notes and blurted out his adventures.

"It wasn't much of a trick to untie the bale, sir," he said, "and I tied it up again while Gonzalez thought I was sleeping; but," he added, I'm afraid the company loses the blankets."

"It's willing to lose them," said the superintendent.

The superintendent talked the matter over with the manager, and at first they thought one of the biggest bank notes in the package was the proper reward for the messenger whose presence of mind had saved the money. But when the superintendent mentioned it to his wife she gave him a better plan, and that is how it came about that for several years the item of a boy's schooling appeared on the expense account of the copper company, with the bills for freight and smelting.

This happened twenty years ago. If you happen to be interested in the story and ever go out to Arizona, the present superintendent of the Montezuma Copper Company can give you the details of the boy's subsequent career.

The present superintendent's name is Armstrong.—Charles Michelson, in Youth's Companion.

RECIPES

Eat Little, but Have That Little Good

SCALLOPED MUSHROOMS.

The small button mushrooms may be used for this dish. Place in an earthen nappy in alternate layers with fine bread crumbs; season with salt and pepper, bits of butter on each layer, and pour over all enough light broth, such as veal or lamb, to moisten well. A little mushroom catsup is an improvement. For a large dish bake for half an hour.

* * *

OYSTER PATTY SHELLS.

Beat one egg light; add two tablespoons of milk, one teaspoon of olive oil, or the same of melted butter, a pinch of salt, and two rounding tablespoons of flour. These had best be tried once or twice before making for a ceremonious occasion, as the butter must be of a perfect consistency. It should be thin, and a timbale iron is a necessity. Fill the shells with creamed oysters.

* * *

ORANGE PUDDING.

Peel and slice four oranges into a deep dish; sprinkle over them a cup of sugar, add juice of one lemon. Beat the yolks of three eggs, one-half cup sugar, two heaping teaspoons of cornstarch and a pinch of salt together; pour over this one pint of boiling milk; let it thicken, then cool before pouring over the oranges. Use whites of eggs for meringue, which brown slowly in the oven.

* * *

DRESSING FOR ROAST DUCK.

Soak enough stale bread to fill the duck in cold water for half an hour, then squeeze dry. Add to it one beaten egg, a tablespoon of melted butter, the same of chopped onion, a teaspoon of sage, and salt and pepper to taste. Mix well and do not fill the duck too full. Use what is left for the pan, and baste as you do the duck. The giblets simmered in a little water, then chopped fine and added to the dressing make a decided improvement.

* * *

PUMPKIN PIE.

To one pint of pumpkin sifted add a scant cup of sugar, one cup of milk, a little salt, one tablespoon molasses, two beaten eggs, half a teaspoon of ginger, a quarter of a teaspoon of allspice, the same of cinnamon and a teaspoon melted butter. Mix thoroughly and bake slowly in one crust. The spices may of course be varied to suit the taste, and if only one egg is at hand, stir in a teaspoon of sifted flour.

"What great misfortune had John Milton?" asked a teacher, looking rather severely over his class. "Please sir, I know!" piped up Johnnie at the end of the row. "Well, Johnnie, you may tell us." "He was a poet!" quoth Johnnie sagaciously.

He is happy whose circumstances suit his temper; but he is more excellent who can suit his temper to any circumstances.—Hume.

IN ANCIENT DAYS.

The sons of Adam were engaged in a warm game of poker. Suddenly Abel discovered he held a wonderful hand. "This is great," he chuckled. "Now I'll raise Cain.'

But before he could do this Adam came in with a switch and raised the dust.—Chicago News.

No man is infallible. Get all the best information you can and use your own cow sense.

Don't fail to consider that if there is one time more important than any other when the "merciful man should be merciful to his beast" it is when they bear their young.

Don't let a new-born calf flounder on a slippery floor or perhaps in the gutter.

Don't swear at your cows or horses; no, nor your hogs. They can't' understand you, and if they could it would not make it any better.

Don't fail to criticise any of the above assertions if you think they are not just right.—A. X. Hyatt, in Farmer's Sentinel.

"Give as you would if an angel
Awaited your gift at the door;
Give as you would if tomorrow
Found you where waiting was o'er;
Give as you would to the Master
If you met his searching look;
Give as you would of your substance
If His hand your offering took."

GOOD THINGS, TOO!

The Christmas Tree—"It is strange that children are so green as to believe in the existence of a Santa Claus."

The Christmas Candle (sputteringly)—"But they are not evergreen."

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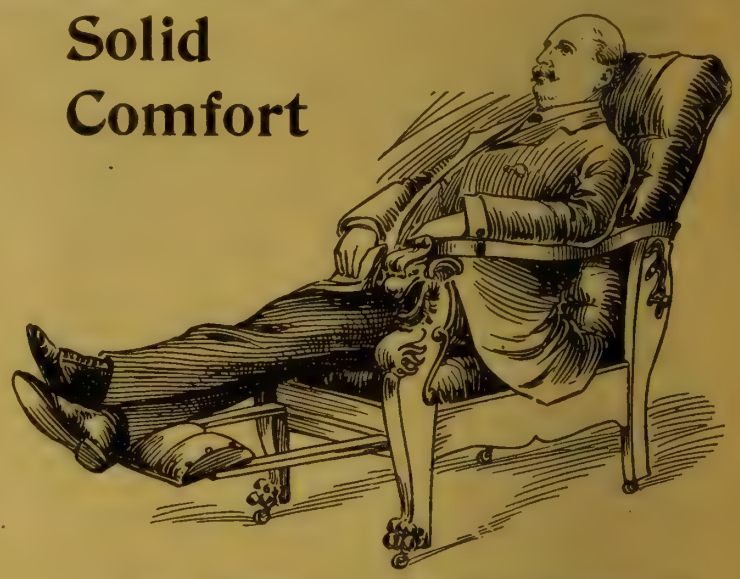

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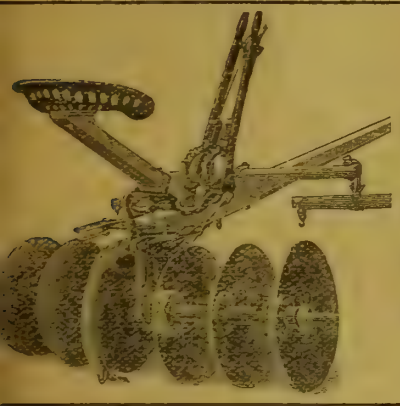

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SOUTHERN PACIFIC

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Los Angeles Markets.

LOS ANGELES, Dec. 30.

The dry weather is having some tendency to advance the price of hay. There is plenty of medium grade stuff but the better article is growing scarce.

Rolled barley is confidently expected to advance, although cracked corn can be laid down here from Kansas at about $1.17, which fact may prevent a heavy advance in barley.

Green peas and beans are somewhat cheaper, and cabbage is higher, being now quoted at $1.35.

Grapes are in demand at from 12 to 15 cents per pound, and some very fancy stock is on exhibition at the public market.

Butter.		
B. of T. Creamery, 2lb roll		70
So. California, dairy do	.60	62½
Cooking	.23	24
Cold Storage	.50	55
Cheese.		
California and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	.16	17
Swiss	.13	
Imported		.28
Eggs.		
Fresh Ranch	.32	33
Fresh Eastern	.25	30
Store, case count	.30	.33
Potatoes.		
River, per cwt		1.20
Oregon, do		1.35
Local, do	1.00	1.25
Sweet Potatoes	2.00	2.25
Beans and Dried Peas.		
Limas	3.45	3.60
Wax	2.50	4.00
White, small	3 75	4 00
Lady Washington	3 75	4 00
NUTS.		
Almonds, paper shell		14
Almonds, soft shell	.10	12
Walnuts, soft shell	.14	14½
Walnuts, hard shells	.13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6
Vegetables; Mixed.		
Onions, yellow, per cwt.	1.75	2.00
Beets, per 100 lbs		.90
Cabbage, per 100 lbs		1.50
Hubbard Squash, per ton	$12	$15
Carrots, per sack		90
Chiles, string		.75
Cauliflower	.40	.50
Celery, per doz.	40	.50
Green Peas		.08
String Beans		.03
Lettuce, per sack	.25	
Tomatoes, 30 lb box	.50	75
Fruits; Fresh.		
Strawberries, box, fancy	.10	.15
Pears, Winter Nellis 40lb box		1.75
Limes, per 100	.90	1.25
Navel Oranges, per box	1.00	2.50
Northern Apples, 40 lbs	75	1.50
Four tier Belleflower		1.60
Four half-tier Belleflower		1.00
Guavas	.04	.05
Fruits; Dried.		
Apricots	.05	.08
Pears	.07	.08
Poultry.		
Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	.13	14
Turkeys, per lb.	.20	.22
Turkeys, cold storage	.22	.23
Live Stock.		
Hogs per cwt	5.25	5.37½
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00
Hay and Grain.		
Wheat Hay		$14.00
Barley Hay		14.00
Alfalfa		$14.00
Corn	1.15	1.25
Barley		1.07½
Wheat	1.35	1.45
Oats	1.25	1.35
MILL STUFF.		
Quotations f. o. b. cars L. A., are:		
Rolled Barley		1.20
Bran		1.20
Feed Corn Meal		1.40
Middlings		1.45
Cracked Corn	1.35	1.45
Oil Cake Meal	1.75	1.80
Chicken Wheat	1.50	1.60
Cocoanut meal		1.50

San Francisco Markets.

Dairy.

San Francisco, Dec. 30, 1903.

A steady but slow market prevailed for really fancy Creamery Butter yesterday, while for the general run of offerings trade was dull and disappointing, with an easy undertone to values.

BUTTER—Per lb.

Creamery, extras	.26	
Creamery, good to fancy	.23	@25
Dairy, extra	.22	@23
Dairy, choice	.19	@21
Store	.18	@19

Eggs and Poultry.

The demand for Eggs lacks bouyancy and as supplies were generally liberal, the market leaned toward easiness.

EGGS—Per doz:

Ranch, selected large	.36	@37
Ranch, good to choice	.34	@35
Store	.30	@32½
California Storage	.28	@32½
Eastern	.25	@30

The Poultry market has been firm the entire week, with prices tending slightly upward.

POULTRY—Old Roosters, per doz., $5.00@5.50; young Roosters, $5@6; Fryers, $4@4.50; Broilers, large, $4@4.50; small, $3@3.50; Hens, small, $4.50@5.50; large, $6@7; Ducks, per doz., old, $5.50@6.50; young, $6.50@7.50; Live Turkeys, per lb., 20@22c; Dressed Turkeys, per lb., 21@24c; Geese, per pair, $1.75@2; Goslings, $2@2.25; Pigeons, per doz, old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

No change of note has attended this branch of the market. Prices remain substantially as quoted last week.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 40@85c; fancy, $1@1.40; Spitzenbergs, $1.40@1.75; Lady Apples, $1@$1.50.

Quinces—Per box, 25@50c.

Table Grapes.—Per box or crate, nominal.

BERRIES—Cranberries, per bbl., Eastern, $12@13.

No particular change marked the citrus market this week, prices as of last week.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.75@2.50; choice, $1.25@1.75; Standard, 85c@$1.25; Seedlings, 75c@$1; Lemons, $1@2; Extra, $2.50; Grape Fruit, $1.75@3; Tangerines, $1@1.50; Japanese Mandarins, $1@1.50; Limes, $4@4.50.

Operators in the potato market only fairly active.

POTATOES—Per ctl.: River Burbanks, 70c@85; Early Rose, nominal; River Reds, 60@75c; Salinas Burbanks, $1.25@1.40; Oregon Burbanks, 90c@$1.10; Sweet Potatoes, $1.60@$1.75.

VEGETABLES—Tomatoes, per box, Bay, nominal; do, southern, per crate, 50@85c; Green Peppers, per lb., 2½@5c; Dried Peppers, Stockton, 5@8c; Wax, 6@10c; String Beans, per lb., 6@10c; Wax, 6@10c; Green Peas, per lb., 5@7c; Egg Plant, per lb., 10@12c; Summer Squash, per box, $1@1.25; Cucumbers hot house, per doz., $2; Mushrooms, per lb., 20@30c; Garlic, per lb., 6@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at ½@¾c per lb.

Dried Fruits, Nuts, Etc.

Trading in Fruits has been very unsatisfactory for several days. The market has shown a constant undertone.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 3½@6c; Sun Dried, 3¼c @4c.

Apricots—Royal, fancy, 9¾@10c; choice, 8½@8¾c; Moorparks, choice, 10@12c.

Peaches—Choice, 5@6c; fancy, 6¼@7c; peeled, in boxes, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9½@10c.

Plums—Pitted, 6@9c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2½@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5½c; Red, 4@5½c.

Figs—White, 4@5c; Black, 4@4½c.

NUTS—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Pecans, 11@13c; Pinenuts, nominal; Peanuts, Eastern, 6@6½c; do, California, nominal; Brazil, 11@12c; Filberts, 10@11c California Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shells, No. 1, 12@13; do, No. 2, 10@11c; Hickory, 8@10c; Chestnuts, Italian, 9@10c; Cocoanuts, $4.50@$5 per hundred.

HONEY—New comb, per lb., White, 12@14c; Amber, 10@12c.

Beans.

Trading in Beans continues of a holiday character and the market maintains a steady tone under scant offerings.

DRIED PEAS—Prices, per ctl: Green, $2.50; Niles, $2.75.

BEANS—Price per ctl: Large Whites, $2.40@2.65; small do, $2.90@3.10; Pea, $3@3.10; Lima, $3.10@3.15; Red, $3@3.15; Pink, $2.60@2.75; Bayo, $2.25@2.45; Blackeyes, 2@2.15; Red Kidneys, $4.25@4.50.

Live Stock.

CATTLE—No 1 Native Steers, 8@8½c; second quality, 7½@8c; thin Steers, 6¼@7c; No. 1 Cows and Heifers, 6½c, second quality, 5½@6c; thin Cows and Heifers, 4@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4½@5c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 3½c @4c, gross weight; Ewes, No. 1, 3¼@3¾c; gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4½@5c per lb, live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 5¾@5½c; weighing under 130 lbs, 5@5¼c; weighing 260 to 350 lbs, 5@5¾c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, $13.50@16.50; Wheat and Oat, $13@15.50; Oat, $11@15; Barley, 9.50@13; Clover, $10.50@11.50; Alfalfa, $9.50@11.50; Stock, $8.50@10.

FEED CORN MEAL—Choice grades, per ton, $28.50@29.

MIDDLINGS—Per ton, $26.50@28.

BRAN—Per ton, $21@22.

OILCAKE MEAL—In lots of 20 tons, $27 per ton; 10 tons, $27.50; 5 tons, $28; less quantity, $28.50. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $24@25.

COCOANUT CAKE—In lots of 10 tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.35@$1.37½; white milling, good to choice, $1.40@$1.50.

BARLEY—Choice No. 1 feed, $1.11¼@$1.15; off grades, $107½@108¾; brewing, No. 1, $1.17½@$1.22¼; Chevalier, $1.30@1.45.

CRACKED CORN—Choice quality, per ton, $29@$30.

OATS—Good to choice white, $1.22@1.35.

Hops.

The price for new crop is 20@24c per lb., according to quality.

WOOL.

Fall clip, per lb; California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

Chicago, December 30.

The wheat market has been nervous the past two days, owing to reports from the western markets.

Cash quotations were as follows: Flour was active and firm; No. 2 spring wheat, 81@84; No. 3, 80@82½; No. 2 red, 83¼@86; No. 2 corn, 42½; No. 2 yellow, 44; No. 2 oats, 35¼@35½; No. 3 white, 35@37¼; No. 2 rye, 52; good feeding barley, 37@44; fair to choice malting, 43@53; No. 1 flax seed, 94; No. 1 northwestern, 1.01; prime timothy seed, 2.90; mess pork, per bbl., 12.25@13.37½; lard, per 100 lbs., 6.65@6.67½; short ribs, sides (loose), 6.25@6.37½; short clear sides (boxed), 6.37½@6.50; clover, contract grade, 11.25.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	5,900	61,200
Wheat, bushels	113,400	55,000
Corn, "	294,400	116,000
Oats, "	410,200	195,600
Rye, "	331,900	81,000
Barley, "	68,500	39,700

Chicago Live Stock.

CHICAGO, Dec. 23.—Cattle—Receipts, 4000, steady; good to prime steers, 4.90@5.75; poor to medium, 3.25@4.80; stockers and feeders, 2.00@4.00; cows, 1.50@3.50; heifers, 2.00@4.75; canners, 1.50@2.20; bulls, 1.75@4.25; calves, 2.00@5.75. Hogs—Receipts, today, 25,000; tomorrow, 35,000; strong; mixed and butchers, 4.35@4.60; good to choice heavy, 4.45@4.55; rough heavy, 4.30@4.45; light, 4.15@4.20; bulk of sales, 4.35@4.50. Sheep—Receipts, 14,000; sheep and lambs steady; good to choice wethers, 3.50@4.00; fair to choice mixed, 2.75@3.50; western sheep, 2.75@4.00; native lambs, 4.00@5.85; western lambs, 3.75@5.40.

California Dried Fruits.

NEW YORK, Dec. 30.—The market for evaporated apples is quiet and unchanged; common, 4@5c; prime, 5⅛@5¼c; choice, 5½@6¼c; fancy, 6½@7c. Prunes continue to attract some export demand, but domestic takings are small and the market steady. Quotations range from 3⅝@6½c, according to grade. Apricots are quiet, choice are quoted at 9¼@9½c; extra choice, 9¾@10¼c; fancy, 11@15c. Peaches are quiet; choice, 7¼@7¾c; extra choice, 7¾@8¼c; fancy, 9¼@10¾c.

CITRUS MARKETS

THE ORANGE MARKET.

Orange Market: The situation in general during the past week has been quite satisfactory. All shipments from Southern California have been taken at fair prices, and the same may be said of everything from Northern California, except such cars as show an unusual amount of greenness, spots, etc. The larger eastern auctions show very satisfactory condition, and quite heavy consumption at the prices prevailing. There is a fair demand in Eastern markets, and orders are coming in quite freely for shipment, showing the business to be starting up promptly, with less of a tendency to sag heavily during the two or three weeks after the holidays, which has sometimes been the case.

THE LEMON MARKET.

Lemon Markets: The lemon market is a thing of the past. There is scarcely any demand and the situation is very unsatisfactory. Stocks of Californias are clearing up somewhat, however, and a little better condition will probably prevail in a short time.

The California Fruit Agency has opened an office in this city, and installed an agent to handle the business that should be done at this point, and expect to fully supply the market with all classes of goods. This will undoubtedly be of much benefit to the people in this city, who have in the past gotten a large proportion of an undesirable class of fruit, and the Agency will see that the market is fully supplied with as much desirable stock as the people will purchase. It is their desire to change the consumption to a much higher class of fruit than has been used heretofore. There has been some talk of selling this fruit through an auction, but the manner of handling will be decided as the needs of the business demand.

Geo E Franklin weather forecaster reports the conditions of weather and crops up to yesterday as follows: Clear, dry weather with cold nights and warm days continue with considerable high desert wind. Oranges and lemons were saved in sections where there was heavy frost on the nights of December 23d and 24th, by the high winds. The desert winds continue to dry out the soil, which can ill afford to lose moisture, otherwise no harm resulted.

Farm work is generally at a standstill, owing to the long continued drought and as a result there will probably be a shortage in the grain crop. Irrigation continues, which is unusual at this time of the year. Mountain streams are holding up well and ditches are said to have plenty of water.

While the drought is assuming a serious aspect, farmers are not yet discouraged believing a reaction will occur and point to previous seasons in corroboration. Owing to the drought but a limited number of reports are being received for the weekly bulletins, as there is not much doing in the way of farm work.

WHAT SHE NEEDED.

"I don't know what to do about my daughter Lucy," said a perplexed mother who had come to an outspoken but kindly old physician for advice. "She seems so listless and does not seem to have any interest in life, and she's so irritable at times. I don't think she has exercise enough, and I want to know what you think about my sending her to a gymnasium or a dancing school. She's tired of her bicycle and the lawn-tennis season is past. What would you advise?"

"How old is she?" asked the doctor.

"Nearly 19."

"Can she cook?"

"Oh, no; she knows nothing about cooking."

"Can she sweep?"

"No; my maid does all the sweeping."

"Does she take care of her room and make her own bed?"

"No; I do that. Her room is next to mine and I've always attended to that."

"Does she have any part whatever in the household duties?"

"No; I cannot say that she has."

"No duties, no obligations, no responsibility, no part in the work to be done in every household."

"Well, no."

"Then, madam," said the doctor frankly, "your daughter has no need of a gymnasium in which to expand her pent-up energies. I don't wonder that she is irritable and unhappy."

"What would you advise?" asked the mother, weakly.

"I would advise you to make her feel that she has a part and a place in your home life; that its duties must be borne by all the members of the family in common, and that she must do her part toward contributing to the general comfort of the home. A girl of her age, with no home duties, no responsibilities, no interest in her home, needs more than a gymnasium or a dancing school to make her helpful and happy."—Houshold.

FOR SALE

I will sell my ranch one mile east of San Bernardino, consisting of 64 acres, mostly damp land, peat or underlaid with peat. This is the finest dairy and alfalfa ranch in San Bernardino county. Will sell with implements and stock if desired. For price and terms, address

J. M. Cardiff, San Bernardino, Cal.

DANDY Bean Picker.

Hand-picked beans bring double price. Make $2 to $3 a day picking them over at home in winter months with the **Dandy Picker.** A special tool for a special purpose—best of kind in the world. Description free.

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AUCTION

I will offer for sale at Public Auction at my home ½ mile southeast of Compton, first ranch east of the Peck ranch, on

THURSDAY, JANUARY 7,

at 10 o'clock A. M., the following property, to-wit: ***33 HEAD MILK COWS,*** these are all good heavy milkers, giving from 5 to 6 gallons per day, each. 11 heifers. 3 horses, 1 thoroughbred 2-year-old Holstein bull, 1 Jersey bull, 4 sows heavy with pig, 1 sow and six pigs, 1 thoroughbred Berkshire boar, 19 shoats, 3½ inch spindle lumber wagon, 1 Benicia 2-gang disc plow, 1 beet bed, 1 beet cultivator, 1 beet plow and planter, 2 walking plows, 1 10-ft. steel harrow, 2 1-horse cultivators, Surrey, buggy, 1-horse wagon, 2 sets work harness, 1 set single harness, hog panels and shoots, 1000 lbs barb wire, 16 walnut trays, 1 doz. milk cans, 3 feed racks, 1 house 10x12, 700 ft. of 5 and 6-inch irrigating pipe. Other articles too numerous to mention.

Free bus will meet Pacific Electric cars at Compton from 9 to 11 A. M. Free lunch.

TERMS—All sums of $25 and under, cash. Over $25, six months time at 8 per cent. 2 per cent off for cash on sums over $25.

W. W. HUTCHISON, Auctioneer — B. ABERLE, Owner

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Small, simple and sure. At all dealers. If your dealer does not handle same, send 15c in stamps and mention your dealer's name and get sample at special rates. Manufactured by

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Fine Orange Trees

NAVELS
VALENCIAS

Strong, thrifty growing trees, absolutely true to name.

Covina, Cal., December 29, '03.

To Whom it May Concern: I wish to say that I have planted trees taken from the Covina Nurseries of H. D. Blanchard and can speak of them only in the highest terms. They are true to name, thrifty, strong growing stock. H. M. Houser.

H. D. BLANCHARD

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West Coast Stock Food

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For all Diseases of Horses, Cattle and Hogs is guaranteed to give satisfaction if used as directed.

West Coast Lice Killer for Stock and for Poultry Houses.

Killamite is the best powder for Setting Hens and Little Chicks

West Coast Poultry Tonic cures sick fowls. It makes hens lay, These goods are compounded especially for the needs of Stock and Poultry on this Coast. There is no other brand to equal these goods. Send for booklet "How to Make Your Live Stock Pay," and for guaranteed receipe for making hens lay.

These goods are put up only by the

WEST COAST STOCK FOOD COMPANY

PASADENA, CAL.

THE FEEDING PROBLEM

STUFFING AND STARVING

SCHOONERS BRINGING FEED TO PETALUMA, WHERE COULSON'S EGG FOOD IS MADE.

When hens do not lay at all or do not lay well, many owners think that if the hens look well, are rosy, plump and fat, it is an indication that the hens surely receive ample supplies of food. But in this they are mistaken, although they may stuff their hens with soft feed, wheat and corn and the hens may be fat and heavy as lead and yet they are actually starving for lack of protein and minerals, etc., that they need more of than they can get.

They are expected to lay eggs when they are not fed the material that makes eggs. When hens are fed on wheat, corn, middlings, etc., food that contains one part protein or muscle-forming food and nine parts of carbohydrates and fat, they will gradually get too fat to lay because all the protein they receive in the food is needed for their body sustainance and there is nothing left for eggs, except excesses of other nutriments which she cannot use for body maintenance, will not alone make eggs and can only be stored as layers of fat where they are less than useless. Instances are common where fowls receive more than sufficient food but it is so badly balanced that they lay few or no eggs.

Feeding is not everything in poultry keeping, but it is one of the most important ways of getting results.

Proper feeding of Coulson's Egg food, besides making hens lay will also help to produce Plumage that will make the fowl indifferent to cold or rain. Coulson's Egg Food is designed to give the laying fowls just what they are kept for—eggs.

This Food contains in adequate quantity eevrything that is necessary to make perfect eggs which will permit of perfect development of chicks while in the egg. Therefore, if you want eggs that will be hatchable and hatch good strong chicks, you should feed Coulson's Egg Food, a complete balanced ration for laying hens.

The egg is the surplus which the hen throws off after all the needs of her system have been supplied, the excess over and above what she needs to repair waste and keep her in perfect health.

Unless a hen is supplied with material for egg production she cannot lay. She can no more produce egg without the proper food than a factory can turn out a finished product without raw material.

FEEDING FOR EGGS

A hen generally consumes from six to eight ounces of feed a day. If she is fed on shorts, or common chop feed, she will have to eat from one to three lbs. before she gets enough material to produce an egg, besides supplying her bodily needs, and as it will take from three to five days for a hen to consume that much food, she will be able to lay only one egg every four days' time.

Now, if this same hen should be fed on a rich egg producing food, like Coulson's Egg Food, she would have to eat only eight ounces to give her enough material to form the egg and supply her bodily needs, besides; so it can readily be seen that if a hen be fed on Coulson's Egg Food two meals a day she will be able to lay an egg nearly every day.

The men who get results in egg production are the men who pay great attention to feeding, and feeding egg producing food—Coulson's Egg Food.

It is a wholesome and safe food, contains nothing injurious. A correctly balanced ration; a scientific poultry food, prepared by people who know how. It is not an experiment. It is successfully used by hundreds of the most successful poultrymen and recommended highly. Fed as a warm mash either morning, noon or evening. Saves bother in mixing; your time is your money. Produces excellent results by natural methods. Price reasonable—cheapest feed on the market, for it gives best results. Goes twice as far as ordinary feed; increases egg production, furnishes bone, muscle, feathers and meat and helps fowls to grow. Pullets begin laying earlier. Shortens moulting period. You can have eggs in winter when eggs are profitable. It is just the feed that all poultrymen are looking for—a feed that makes hens lay nearly every day.

One hundred and seventy-five eggs per year per hen by feeding Coulson's Balanced Egg Food.

Are you feeding your hens this feed? If you are not, you are making a great mistake. Coulsons prepared food for laying hens is just what your hens need and they must have it if you expect them to lay many eggs at this time of year. There is in this egg food everything necessary to help the hen grow the eggs.

D. H. Ward of Cotati, says: "I have fed Coulson's Egg Food for over a year and I am well satisfied with it. I am now getting 90 dozen eggs a week from 500 hens. My hens laid well last winter on this food and I shall continue to feed it this winter."

Others try to economize by feeding a cheaper feed but they make a great mistake.

Price of Coulson's Egg Food at the Factory, we do not pay freight: One sack, $1.65; 5 sacks, $7.75; ½ ton, 11 sacks, $16.50; 1 ton, 22 sacks, $33.00. We place on cars free of charge.

Send for free sample and catalogue of poultry supplies.

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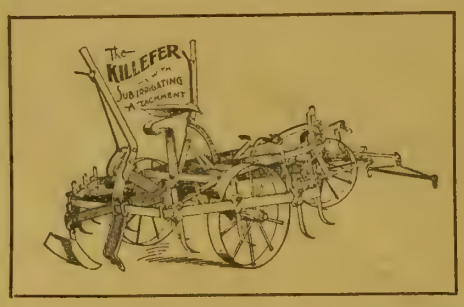

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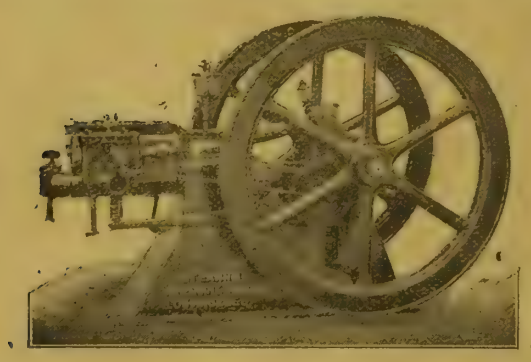

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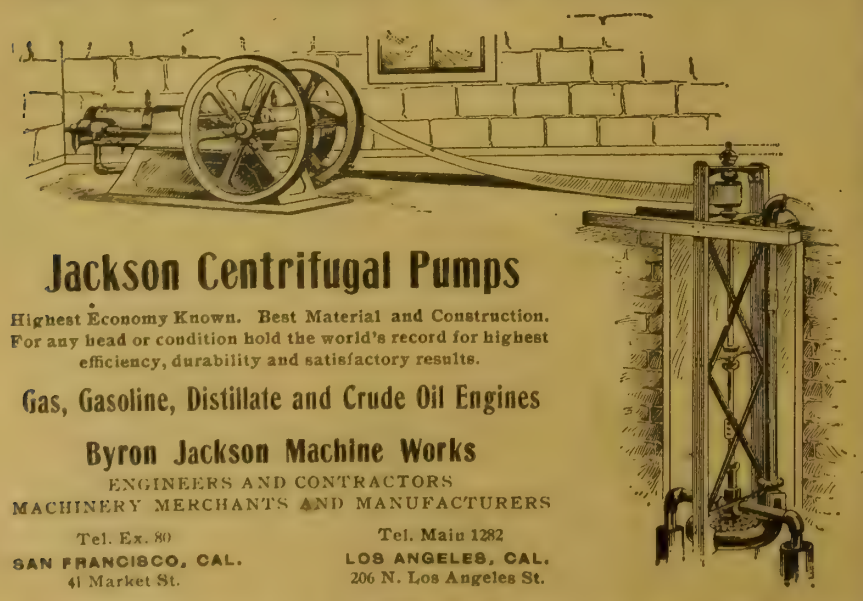

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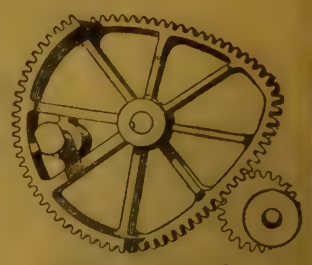

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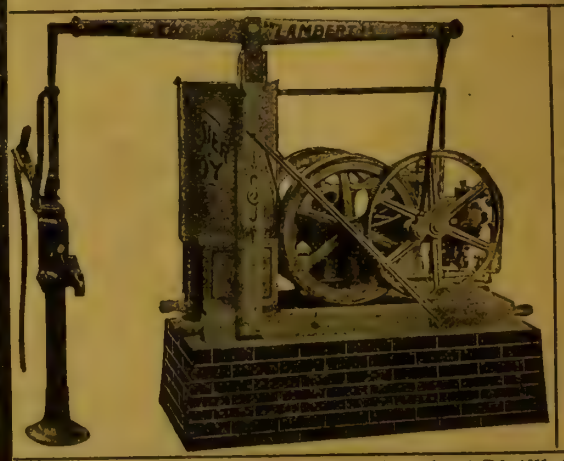

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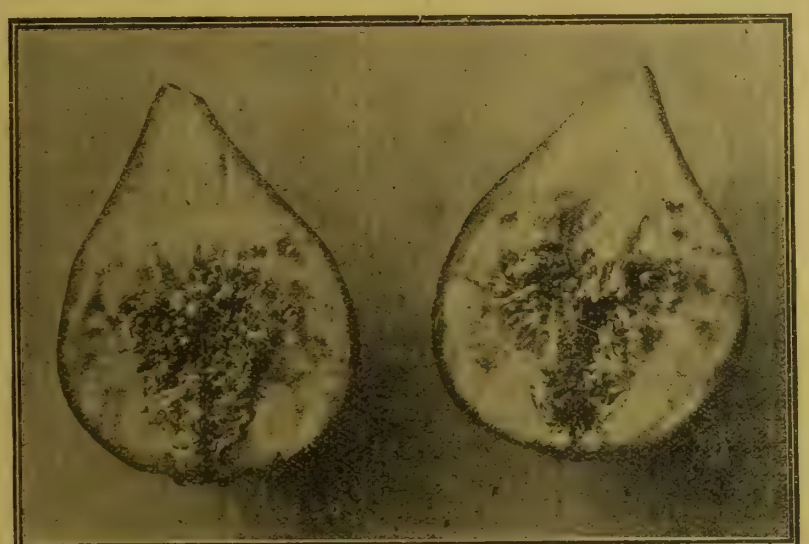

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Cheaper than driving staples in the limb, and no possible damage to tree.
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in quantities at the same price at which other Apricots are sold. Our trees are grown on virgin soil, and are bright, clean, thrifty and possess a perfect root system. Catalogue free. Write us before you buy from others. Address

F. H. WILSON, Proprietor, Fresno, California

CALIFORNIA CULTIVATOR

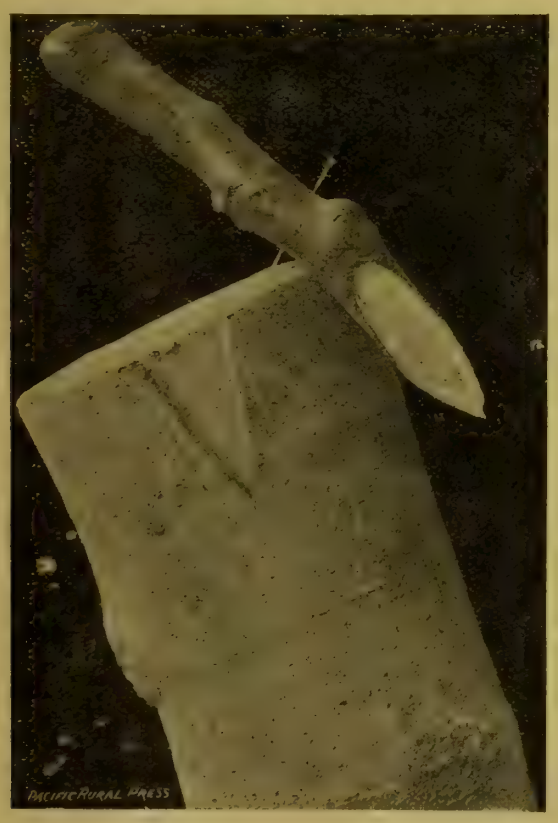
A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 2 LOS ANGELES, CAL., FRIDAY, JANUARY 8, 1904 Subscription $1 a Year

Successful Fig Culture

BY A STAFF CORRESPONDENT

It was the pleasure of the writer recently to visit the home place of Geo. C. Roeding of the Fancher Creek Nurseries and see the fig orchard from which the celebrated Calimyrna figs are produced. This place covers a section of land, beautiful sandy loam



Showing Method of Grafting the fig.

but of this only sixty-five acres are in figs. We say only sixty-five acres for we presume Mr. Roeding would now prefer more of his place in this profitable fruit. But the time was when that acreage was sufficient—more than sufficient.

For sixteen years its owner kept those trees in good condition without a penny in return. For sixteen years the search for something to make those trees bear was continued and successfully accomplished in the securing of the Blastophoga grossorum from Smyrna. The interesting story of that work was given some months ago in this paper. Now there are a number of the Capri fig trees on the place with a crop of winter figs which are carrying the colonies of the insect which will later pollenize the growing figs. Most of the trees stand out in the open, though a few are covered with a frame work thatched with palm leaves. This protection is simply a matter of extra precaution, for the cold season has never yet been severe enough to injure the fruit on other trees which are exposed and had no protection at all. These figs are small, green and not inviting in appearance in the least, but they answer the purpose in the economy of nature and produce the wonderful little insect which carries the pollen from the one to the other flower and has made commercial fig culture in this country the success which now promises much for the future.

How far this culture may extend is unknown, but in most of California and some of the southern states and in Mexico, it will doubtless be planted. Mr. Roeding has made shipments to Australia and many of the islands of the Pacific, but we presume there is no more desirable conditions than prevail in the great San Joaquin and the Sacramento valleys. The heat of summer is sufficient to secure the required amount of sugar in the fruit. The ripening is early so that the drying is out of the way of the fall rains and fogs.

As may be seen by engravings in this paper the grafting of the fig is readily accomplished. Several long rows of Adriatics and other varieties have been grafted to Calimyrna and have grown fine heads and will soon be in full bearing again.

The drying and marketing are simpler and more satisfactory than most other dried fruits. The demand must increase as the fruit becomes better known to the trade. Instead of being packed as is the Smyrna so as to lessen one's appetite for that fruit, it is packed in tasty cartons by girls, the package sealed, this keeping it perfectly clean.

Some fruit was exhibited at the State Fruit Growers Convention, at Fresno, which was some fifteen or sixteen months old, yet it was in fine condition.

Figs are not Mr. Roeding's sole interest, for his large nursery interest in olive and raisin culture all take much of his time.

He has a half million of olive cuttings in his nursery, almost a million deciduous trees, a half million vines and other features, including ornamentals, citrus, etc, which makes a big business,

THIS EMPIRE OF THE WEST HAS GREAT PROMISE.

"Looking into next year we might compare this western empire with a youth just reaching legal age, with all the strength and force of a young man, his life's accomplishments ahead of him. This country has experienced the excitements, pleasures and disappointments of its young life, and has now settled down to the earnest execution of its life-work. While developing her own resources as never before, she is already reaching out to come into closer contact with the great possibilities of the Orient, and in this connection it is safe to say that there are splendid openings in the Pacific Islands for progressive advertisers in many lines of trade.

Every advertiser may set it down as a fact that somewhere in this development work there is a place for him and his products; he has only to keep in close touch with the movement of events and watch for a favorable opening."—W. D. Curtis in Profitable Advertising.

The above hopeful words by Mr. Curtis occur in the Western Edition of Profitable Advertising, which devoted nearly its whole edition to conditions of the West. But the "West" in the eyes of the "East" seems to center around Chicago. In that edition only Mr. Curtis and a very few others got this side the Rockies. There's a wonderful section out here on the rim. May the 'way back easterners learn this and come out here and cultivate us. The Cultivator is a rattling good cultivator, all right.

A Neat Catalogue.—The Armstrong Nurseries of Ontario, have just issued a very neat catalogue of deciduous, citrus and ornamental trees. It has hints to planters and buyers, lists with descriptions of varieties of trees and plants which makes it of value. The book is illustrated with a number of well executed half-tone engravings. The work is done by the Kruckeberg Press, of Los Angeles, and is a credit to that house.

One illustration of the worth of the catalogue is in the list of peaches, we note that each peach is not only fully described but time of ripening given as well. For instance:

. Muir.—Large yellow freestone; of excellent quality; flesh yellow clear through; pits small. One of the most popular varieties for canning and especially adapted for drying. August.

The grafted fig tree

CALIFORNIA CULTIVATOR

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Friday, Jan. 8, 1904

ITEMS OF INTEREST.

The Chicago Tragedy—Awful was the introduction of the New Year to the people of Chicago and surrounding country. The burning of the Iroquis theatre wherein passed away several hundred people, created a tragedy that has been equalled but once in the past century, and that instance was the burning of a London theatre. Scarce a state in the middle west but had some citizen in the Iroquis theatre when the dreadful sacrifice was made. May the lesson learned from this awful calamity serve for all time, in this country, and spur the officials in every city to look well to their duty in enforcing the proper construction of all places where public gatherings are to be held.

* * *

Congress Re-assembles—The one important business of the Congress just re-assembled will be the consideration of the Panama treaty. On this subject the President has gone into detail exhaustively in his message, and his position is regarded, by men of all shades of politics, as eminently sound. One sentence in his message explains the whole subject so tersely as to commend general attention. In this he says:

"In conclusion let me repeat that the question actually before this government is not that of recognition of Panama, as an independent republic; that already is an accomplished fact; the only question is whether or not we shall build an isthmian canal."

Herein is the gist of the whole question and upon the determination of this must Congress he held responsible by the Nation.

* * *

Prosperity For 1904—Statisticians have concluded their study of the financial conditions of the country, for the past year, and are taking a hopeful view of the coming one. In the city of Chicago the clearing of the banks reached the highest mark in the city's history. Deposits also passed the point of all previous years. In the middle west crops have ranked well with those of former years, even surpassing many marked for their abundance. Good prices paid to farmers for them have made a foundation of prosperity that cannot fail to prevent any possible depression.

The railroad earnings of the West on the whole, broke all previous records. The volume of traffic was enormous, and surprised even the most far-sighted managers. The business offered was so immense as to require enormous expenditures of money on lines and equipment, and it is the opinion of the railroad authorities that the roads should now be in position to get the benefits of their outlays.

In view of the records of business of the middle west during the year 1903, business men, railroad presidents and bankers take a generally hopeful view of the outlook. They point out that the crops furnish a solid foundation for prosperity. Railroad men say that the earnings will not fall off greatly. Business men expect a first-rate year. Bankers predict easier money conditions.

* * *

Irrigation in California—Between the 16th and 18th of this month, the representative irrigationists of this state will meet in San Francisco the chiefs of the Forestry Bureau, with a view of discussing the methods to be adopted for extending irrigation projects in this state.

No general subject is more important to California people than the enlargement of its water interests, for upon this depends the future prosperity of the commonwealth. Of special interest is the report of Chief Engineer Lippincott, on the Colorado river and its value to California. In this connection he says:

"The engineering problems relating to this are difficult, and are probably among the most complicated that will be encountered in the arid region. There is no reason for believing, however, that these questions cannot be favorably solved and works constructed that will give satisfactory results. Probably the greatest opportunities in the Southwest for very extensive irrigation development lie along the Colorado river. The volume of the available water supply, the area irrigable lands, fertility of soil and climate, all point to great development. This district would be tributary in trade to the towns of Southern California, and, it is believed, offer probably the greatest latent resources back of the Coast district."

It is to be hoped that California's delegation in Congress will be eternally vigilant in pressing to favorable conclusion every project which looks to the development of the water supply of this state.

* * *

Co-Operation the Remedy—Two decades ago, the Porter Brothers were small fruit dealers in Oakland. They gradually built up a commission business until they largely controlled the citrus and deciduous trade of the Pacific coast, and made for themselves large fortunes. They had but one competitor—the Earl Fruit Company. E. T. Earl, of that company, sold out three years ago, realizing $1,000,000 from the sale. James H. Watson, former president of the Porter Brothers Company, in his testimony given at Chicago, before the Fruit Commission Merchants, explains how these great fortunes were secured. He says he received in the way of rebates on freight, about $1,800,000. This, of course, was in addition to the 7 per cent commission on the gross receipts of the fruit handled, now, receiving 7 per cent commission, and a rebate of from $50 to $100, per car on the fruit shipped, it may easily be seen how these commission men could acquire princely fortunes in a few years. Had the farmers of California been properly organized in a general co-operative association the profits which went to the Porter Brothers would have gone to them. If the farmers will organize and stay organized, they will reap millions in a few years—the money now going into the pockets of the commission men. It is estimated, that something like 35,000 car loads of fruit will, this year, be shipped out of California. If there are to be rebates of $50, or $100 per car on this fruit, let the growers see to it that they receive the benefits of such rebates.

* * *

Bee Keepers—The annual meeting of the Southern California Bee Keepers' Association held in this city this week did not draw a large attendance but it did provoke a most interesting discussion on the conditions which attend the business and the necessity for co-operation in the line of better work in future to make the business pay higher returns. Some interesting papers were read on the marketing of honey and kindred subjects.

The Department of Agriculture of the United States estimates the area sown to winter wheat, in the country, at 32,000,000 acres, and in California at 2,411,965 acres.

BY J. W. JEFFREY, LOS ANGELES

THE MAIN PROPOSITION.

The President said in his last message that it was not the question of the recognition of Panama, but the question is shall an isthmian canal be built. The citrus fruit growers are facing the proposition, not as to whether this or that side issue shall have place, but whether there is to be any market at all for citrus fruits at a profitable figure. The main issue is the sale of 25,000 carloads of oranges and lemons. No one conversant with the history of the past or the conditions of the present time can give an uncertain answer as to these queries. Less than one year ago there seemed nothing but disaster ahead. That the magnitude of the crop, the loose-jointed methods in vogue this end of the line and the lack of unity all along the line was responsible for a large measure of the trouble no one can deny. It is equally patent that the demoralization would have continued indefinitely had not the hitherto adverse elements come to an understanding of the great menace before them in time to partially remedy the evil ere last season closed with a dark record for the citrus industry. It is useless for any one to controvert the proposition that a lack of general organization would have been fatal to all, even the smallest independent going down in the fatal wreck. If these things are true one would cut a sorry figure in opposing the present arrangment for marketing citrus fruits were the results of his action set before the calamity that would inevitably follow general disorganization.

The fruit growers are not alone in the interests involved in a co-operative plan of selling oranges and lemons. Every business on the coast, the welfare of the working men, the maintenance of farm and urban values and even the benefits derived from tourist visitors would immediately feel the results of a failure of a general marketing plan. Were the co-operative efforts of selling fruit suddenly abandoned, a wail of woe would be heard from all industries and interests. The people might not understand the causes of a permanent slump in the orange market but they would feel the results. However, there is little probability of the growers ever lapsing to their former condition of loss and discouragement through any lack of effort or misunderstanding of what they would have to face. "The burnt child will shun the fire." If the growers generally feel the necessity of organization there is no hope of success in attempting to overturn the present plans of the Fruit Agency. There is no mistake as to the feelings of the growers on this point. A few there are, who, from motives of supposed self-interest, from outside influences or from misapprehension of the effects of their action, prefer to antagonize any plan that does not take into account these personal feelings. There is no way to convince these people of their error without a return to a chaotic condition in which all would be ruined. This cannot be thought of, and consequently the co-operators will have to fare along in the face of this puny opposition. Circumstances may soon wear it out, but in the meantime every well-wisher of the grower should stand pat, with the certainty that there is nothing so demoralizing as disorganization or ultimately destructive. It is not a case of flying to the ills we know not of, but one of flying into old condition of helpless dependence.

NOTICE OF MEETING.

A meeting of the members of the Apple Growers' Association, will be held in room A, at the Court House in Los Angeles, on Saturday, January 16th, at 10 a. m.—Fred'k. Maskew, Sec'y.

BY DR. W. J OLIVER,
109 North Broadway, Los Angeles.

FORM OF GARGET.

Editor Cultivator I have a cow that had some obstruction in one of her teats with last calf. I opened it repeatedly, used a plug and milk tube, but with poor success. I bathed it twice a day with hot water, rubbed it thoroughly, but was never able to get only a few drops of milk at each milking. About two months before she dried off I ceased milking that quarter. She freshened again a few days ago. Now the same quarter is badly swollen and hard. I opened the duct again but can not draw anything off. What can I do to relieve her and is there any chance of bringing that quarter back to a normal condition.—Yours W. J. W.

None, whatever, the quarter is lost.

* * *

SIMPLE APTHALMIA.

Editor Cultivator Will you please tell me through the Cultivator, what to do for a horse that has been troubled with his eyes for about a month? He will at times in the morning have one or both eyes closed, as if he had something in it, and water will come out of it. and in four or five hours after I take him out of the barn, he will apparently look as if he would be all right and other times will have his eyes closed all day. The horse is about 8 years old, and is in very good condition, and working every day.—Subscriber.

The trouble appears to be an inflammation of the duct of the eye. Treatment: Sulphate of zinc 10 grains, quinine 3 grains, water 2 ozs., inject with dropper three times a day.

* * *

GRUBS.

Editor Cultivator: Will you tell me through the Cultivator what to do for grubs in stock cattle along the back bone, and do they effect them in any way?—Yours, A Subscriber.

Put a little turpentine over each and press on them. They will come out.

* * *

FORM OF ANTHRAX.

Editor Cultivator: I have lately lost three cows from what was said to be bloody murrain. They were somewhat constipated but not badly. Two of them passed bloody water but the third never did. Their horns were cold and warm by turn, they seemed to be weak in hind quarters, throat was sore, and they had running at nose and mouth. A fresh cow was taken sick two days after calving. She showed same symptoms as others had. with the exception that she had diarrhoea and did not pass bloody water. I gave her a dose of sulphur, saltpetre and turpentine and she improved to a certain extent. About two weeks after calving, thick, dark blood began to flow when she lay down. This has almost stopped now, but her appetite is not good, it seems to hurt her to eat and drink, and she eats dirt. Her nose is clean now and has been for sometime. Please tell me through the Cultivator what to do for her and oblige.—Subscriber.

In the first place, it will be necessary to clean the cow out. Give one and a half pounds of epsom salts, ginger 2 oz., dissolve in three quarts of water and give as drench. Follow up with tonic of nux vomica powder 3 oz., powder gentin 4 oz., mix and give tablespoonful twice a day.

California apples are highly appreciated in Plauen, Germany, so writes the American Consul, Hugo Muench.

Some weeks ago mention was made in the Cultivator of the great discovery of James Dennis, of Richmond. Indiana. At a nominal expense he saturates clay, with a secret chemical and thus creates a fuel as good as the best coal. A company of capitalists has been organized to put the new fuel on the market.

Conducted by Prof. A. J. Cook, Claremont, Cal.

A B C OF INSECTS.

Today we will say the closing word regarding moths and butterflies. We recognize that this order, Lepidoptera, is peculiarly interesting for two reasons. The insects are usually so beautiful that they attract general attention and are regarded as among the natural gems by all lovers of nature. Again, like the locust order, they all feed on vegetation and so are among our notorious insects foes. It is not the butterfly or moth, however, that destroys our valuable product, but the worm-like caterpillar. A very intelligent farmer the other day at the Glendora Institute spoke of the orange caterpillar as the orange maggot. "Why," he said, "it was round and smooth and white and must be a maggot." It was undoubtedly a caterpillar, which may be and often is as smooth as any maggot. We remember that the caterpillar has usually sixteen legs, always ten or more, while the maggot is footless. Again, the caterpillar will always produce a butterfly or moth while a two winged fly comes as surely from the maggot. This, then, is the test.

* * *

The Boring Caterpillars.—There is a small family of moths which are exceedingly wasp like. They have bright colored and often partially transparent wings, fly rapidly in the hot sunshine, and closely mimic moths, which doubtless protects them from insectiverous birds. Their larvae, are smooth, that is, without hair, of whitish color, and all have the habit of feeding upon wood. They are among the most serious borers. They pupate in their own chips. These boring caterpillars are often as damaging as are the boring grubs previously described. Here belongs the pestiferous peach borer, very destructive in parts of California. Others of these clear winged moths bore in squashes, currants, maples, etc. I know of cases in Michigan where peach and currant orchards suffered seriously from these borers, and yet, by concerted action of the fruitmen, were entirely freed of the enemy. It goes without saying that caterpillars may usually be killed by the use of Paris green, but in case of borers, they must be dug out, or in case they bore into twigs, the latter must be pruned off and burned.

* * *

Butterflies.—Everybody recognizes the butterfly, of which there are at least three distinct families. They are diurnal, that is, they fly by day, nearly all, approximate their wing at the back when at rest, and all have knobbed antennae in which they differ from all others of this order. The pupa of these has often metallic hues and hence the name, crysalis, from a word meaning golden, which is applied to the pupa. They pupate unprotected and are suspended by a tuft of silk. The larva always has sixteen legs and may be entirely naked or without hairs or again, may be quite hairy and in some cases spinous. When naked they are usually protected by rank odors. It is easy to see how the hair and spines would serve as protection from bird or other insect. The caterpillars of butterflies are great feeders and except from the fact that they often feed upon weeds or valueless plants, they would be much more serious pests, even, than they are at present. The white, imported cabbage butterfly has reached every state of our country, and is a very serious pest. We have a very dark, almost black, butterfly with a bun border, which is common all over the United States, and which feeds on the willow and elm. The black caterpillars are gregarious and when not feeding are gathered in a cluster, probably for warmth, possibly to protect them from parasites. They are often very destructive to our willows and from their habit of clustering when at rest, they are quickly seen and may be easily destroyed by hand-picking. From what I have said so frequently, all will at once think of Paris green or the arsenites as the sovereign remedy against these caterpillars of butterflies.

* * *

Puffy Fruit.—A few days since, I had the pleasure of visiting some of the orchards about Monrovia. In strolling about in the fine orchard of Professor Williams, president of their club, we came upon a tree that bore the most puffy fruit that I ever saw on a single tree. The majority of the oranges were very much disfigured by the bulging rind. Professor Williams told me that the tree used to bear as fine fruit as any tree in his orchard. Two or three years since, he placed a cesspool near the tree, and now the fruit puffs very badly each year. I suppose that all are agreed that puffiness is the result of unequal growth of peel and pulp. Is it not probable that splitting is caused by the same? We can easily see that if anything should push the peel to excessive growth, puffiness would result while the extra growth of pulp would result in a split. Very likely the close proximity of the cesspool gave a large supply of food as the fruit ripened, and pushed the growth of the peel and hence the disfigured growth. If this view is correct, and surely it has much to sustain it, then any spasm of growth, as the fruit nears maturity, would be likely to manifest itself in split or puff. The obvious cure then would seem to be to work to preserve a steady growth and development by uniform and regular feeding and irrigation. Letting the orchard get too dry and then flooding or the excess or fertilizers would be likely to result in either cracking or puffy fruit.

* * *

Varying Carpels in Citrus Fruit.—We also saw in case of two other, trees, a very interesting marking of the fruit. The separate carpals or section were very distinct both as to color, and line of separation. We know that the fruit of the orange is the ripened ovary. In this case the ovary is compound and is really made up of separate leaves, of course modified. Many think that this marking of the fruit is due to different kinds of pollen in fertilizing the seeds of the separate sections. This is not probable. While we have reason to believe that pollination effects development to retard or increase, we have no reason to think that it modifies the character of the fruit. In this case we have good proof, as the tree bears many marked oranges each year, and surely cross pollination would not be confined to one or two trees to the exclusion of others. It is rather in the nature of a sport or variation. Just as separate leaves may vary in form or color, so the separate carpels of the fruit, which, as we have seen, are only modified leaves, may likewise vary. As stated above, the separate carpels in this case were not only different in color, but a rib or crease separated them. Prof. Williams told me that as the fruit colored up, these lines of demarcation disappeared, so that there was no disfigurement of the ripened fruit.

* * *

Fuller's Rose Beetle.—Inspector Maskew in his excellent talks at the Pasadena and Glendora Institutes this past week, made an assertion which will surprise many. He stated that Fuller's Rose Beetle was by all odds the worst insect pest, at the present time, in Southern California. Those who know how accurate Mr. Maskew is, will believe he has good grounds for this assertion. It is not the beetle that Mr. Maskew fears so much as the grubs. These he finds working havoc from Santa Barbara to Orange counties. Presumably they are in all Southern California. The destructive grubs work on a great variety of plants. So great is the importance of this insect that very soon I shall prepare for the readers of the Cultivator the full life history of the insect, with carefully prepared figures illustrating the insect in all its stages.

(Continued on Page 46.)

Growers are safe
when they plant

CALIMYRNA TRADE MARKED NAME

True Smyrna Fig of Commerce
Introduced by Geo. C. Roeding

FIG TREES

The only Fig for Commercial Purposes
The only Fig worth while to Plant...

CALIMYRNA R FRESNO

Be Sure this Seal is on Your Calimyrna Trees

It is for your protection as well as ours. The first cost of a tree is a minor matter—it is the time, money and labor that you put into your orchard after it is planted that counts. We have the only bearing Calimyrna orchard in the UnitedStates. A point worth remembering.

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We also issue a Catalogue in the Spanish language

"The Smyrna Fig at Home and Abroad" by Geo. C. Roeding postpaid 25c.

Paid up capital $200,000.00

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Growers of Trees and Vines of all Sorts

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Season **Navels** **Navelencias** **Valencia Lates** **1904**

All stock two years old on four-year-old roots. First-class in every particular. Large, healthy, clean. No better anywhere. Write us for prices.

Mills & Masters

JAS. MILLS, Mgr. RIVERSIDE, CAL.

RIVERSIDE NURSERIES, Riverside, Cal. Fullerton, Cal., Oct. 24, 1903.

Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully, CHARLES CHAPMAN.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

CANKER-WORMS.

During the past years there has been much complant, especially among apple growers, of the ravages of the canker worm, or as it is generally known the measuring worm, inch worm or looper. There are two forms of this pest, which are destructive in our state, the spring canker worm—Paleacrita vernata, Riley—and the fall canker worm—Alsophila pometaria, Harris. There is also a third form which has also proved destructive to forest trees in some of the eastern states, but which, we believe, has not been reported from this state. The common name of inch worm, measuring worm or looper, is derived from the peculiar method of progress of the insect in its larval state. When full grown the caterpillar is about an inch in length and travels from point to point by stretching out its body to its full length, fixing itself by its forefeet, and then, bringing its hind feet close up, forming a loop. It then fastens itself with its hind feet and moves its fore part ahead its full length, repeating the operation until it reaches its stopping place. It is this peculiar mode of locomotion that has given these insects the common name of measuring worms.

The two species of canker-worms resemble each other so closely that the unscientific observer is apt to confound them, yet there are, to the entomologist, marked differences between them. They agree in their general characteristics, both travel in the same peculiar manner, and in their adult stage the males of both are provided with ample wings, while the female is apterous, or wingless. In the Spring canker worms, however, the insects remain in the pupa state through the winter months and emerge as moths in the spring, while in the other case the greater number of moths pass through the pupa state and emerge as moths in the fall.

The Spring canker worm appears, as stated, in its matured form early in the spring. The females, which are wingless, at once crawl up the trunks of the trees and deposit their eggs in such a place that the young, when hatched, will find abundant food. Having accomplished her duty in this respect, she dies. The eggs are of a pearly luster, of very delicate texture, and are deposited in masses of several hundreds, usually well hidden in the crevices of the bark, and are laid without any regularity. The young caterpillars are of a brown or dark olive color, with shiny black heads. When they attain their growth they are about an inch in length and vary in color. The larvae hatch about the time the leaves expand and attain their full growth in three or four weeks. When fully grown they lower themselves to the ground with a delicate silken thread and working their way beneath the surface of the soil, make an earthen cell, which is lined with a few silken threads, and in this way they pass the pupa state.

Spring Canker-Worm. (Paleacrita Vernata-Riley.
A—male. B—female. C—joint of antenna. D—joint of abdomen. E—ovipositor.

The Fall canker worm very closely resembles the Spring variety, although the trained eye will at once detect marked differences in both form and markings in the caterpillars and mature insect. In this variety the moths usually emerge from the pupa state late in the fall and in our climate may even continue to appear until well along in the Spring. The eggs are not laid, as are those of the preceding species, without any regard to regularity, but are deposited in compact masses, fastened to the twigs on which they are laid with an adhesive substance, and are loosely covered with gray hairs which the female rubs over them from her abdomen. In the Spring canker-worms the caterpillar has a number of fine lines down the back; in the Fall variety these are replaced with a broad brown stripe. The moths are larger than the Spring form and have distinct markings. The caterpillar undergoes but two moults and matures rapidly. They hatch early in the spring, and greedily devour the tender foliage of the trees upon which they are located, the apple being an especial favorite. Here they eat and enjoy life, being well hidden from observation by the small curled leaves and their presence is often unexpected until great damage has been done. Like all the loopers, the caterpillar when at rest, assumes a stiff posture, either flat or parallel with the twigs on which they rest, or at an angle of about forty-five degrees. They will maintain this position for hours at a time, and so closely resemble a small twig of the tree on which they are located that it is a difficult matter to see them. Like the Spring canker worm, when full grown they lower themselves to the ground on a silken thread and go into the pupa state beneath the surface.

Fall Canker-Worm. Alsophila pometaria-Harris
A—male. B—female. C—female antenna D—segment of body of female. E—mature larva.

For remedies the Paris green spray has been recommended. Spray the infested trees with one pound of Paris green to 200 gallons of cold water. To prevent the Paris green from injuring the leaves dissolve six pounds of fresh lime in water and add the latter to the solution. Keep the mixture constantly stirred while spraying.

In his paper before the late Fruit Growers' Convention Mr. Ehrhorn states that this had not been altogether satisfactory. He says:

"The canker worm was again present in numbers in several counties. The ill success with the Paris green spray does not seem to warrant its use. As usual, the reports from the use of this spray were conflicting, some growers reporting a total failure,

Canker Worm

while others claimed entire success. Some report that one pound of Paris green to 25 gallons of water, with 20 pounds of lime, has killed the worms after a few days. I believe the cause of the failure is mostly due to the drenching of the trees instead of using a mist spray. I have examined sprayed orchards and have found but little poison on the leaves, generally along the lower edge of the leaf. It is no use spraying trees a la buggy washing—better save money and time. Good results have been obtained by the mesh wire trap when properly applied to the tree. Here again great care must be taken to see that the trap is correctly adjusted."

Perhaps the trap method of dealing with this pest is the best. In this case the wingless females are prevented from climbing the trees to deposit their eggs in the fall. This can be done by placing a wire netting trap, as shown in figure. First place around the tree a piece of cotton batting, and then a strip of wire netting of No. 16 mesh, six or eight inches wide. Tie at top with cord or wire. See that the netting does not touch the tree at bottom. The insects will collect under it and go up as far as they can, being attracted by the light through the netting and there perish. After the female has ceased crawling or hatching, the traps should be removed and scalded, as eggs deposited on them will hatch and the minute larvae will get through the mesh. The trunks of the trees below the trap should also be scrubbed or coated with a thick whitewash.

Canker-Worm Moth Trap

TREES

WALNUT and **APRICOT**

Selling fast. We carry a full line of all leading varieties of **CITRUS. DECIDUOUS** and **ORNAMENTAL STOCK.** Get our prices before buying. **PRICE LIST FREE.**

Orange County Nurseries

Richman & Mills, Props. **FULLERTON, CAL.**

DECIDUOUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

SOY BEANS ON THE COLORADO RIVER.

Editor Cultivator.—I wish to know if the soy bean can be planted as late as July and make a crop? I have some land on the Colorado river bottom, that overflows and the water does not recede until July. Will they stand any alkali? How much moisture does it require to start the seed? I have some land that does not overflow, is always moist but shows some alkali on the surface. Should the seed be ground for hog feed? Where can I get the seed?—E. C. Smith, Palo Verde, Colo.

The small early or medium early varieties of soy beans should mature a crop with you if planted in July. There are a large number of varieties of soy beans and the names have become badly mixed. Medium Early Green seems to be a well recognized variety that gives good results. The early short varieties produce the most seed and it may be possible that some of them will produce two crops with you in a season on your land that is always moist. They will stand more alkali than rape will, and that will very often make a good crop where alkali comes up in moderate quantities.

We cannot state with any degree of accuracy, how much moisture soy beans require to sprout, but they will sprout in soil moist enough to start barley or wheat.

The seed should be ground when used as hog feed as they will not eat it whole. It should not be fed alone, but mixed with other grains as it is a very concentrated food. At one of the experiment stations, hog fattening experiments were carried on, using Kaffir corn as a basis, and it was found that a saving of 30 per cent. was made in the amount of grain used, when soy bean meal was mixed with Kaffir corn. When soy bean meal is fed to dairy cows, it makes the butter soft.

We do not recommend soy beans for you to plant, for every new country has to work out the local problems for itself. We do not know that they will do well with you, though we see no reason why they will not. They have never become popular in California, but just why it is, we do not know. They will not take the place of the cereals as, they fill a different office, but they do make an excellent substitute for bran and cotton seed meal.

* * *

NON-BEARING PRUNE TREES.

Editor Cultivator.—I have a prune orchard that is healthy and thrifty, on Myrobolan roots, blossoms full, but drops its fruit when it is about the size of peas, has done so for 4 or 5 years. The trees have not been pruned every year, have been sprayed the last two years and are perfectly clean, with bright bark. The soil is heavy, has doby bottom and is in the center of the valley. The orchard was manured last year with stable manure, and will be this year. Please give best time to apply manure and will irrigation be of benefit? Is it best to irrigate before the pits harden or afterward, or is the ground too wet in winter and would draining with tiles be of good and would it affect the irrigation by drawing off the water?—G. R. B., Santa Rosa.

If your trees are young as we suppose they are from the description you give, we should say that they are too thrifty to think of going to work. Ordinarily, prune trees that are so thrifty and refuse to bear, should not be fertilized with stable manure or irrigated as it only increases their vigor and postpones the bearing period. The safest thing for you to do is to stop fertilizing and irrigating, and allow the trees to settle down to a moderate growth. This might be hastened by giving them slight cultivation which would stop any rampart growth, but it would not be safe unless you were prepared to irrigate early in the summer. Irrigation should be done before the pits harden. Land that is heavy clay with doby sub-soil should be irrigated with caution as it does not take much to water-log such soil and drainage cannot take place very well. Tiling would not injure such land even if it were desirable to irrigate it. Don't prune your trees till they bear some good crops.

As far as we know, there is no special time for applying stable manure to prune trees. If we thought that they would be benefited by it, we would put it on whenever we could get it. No matter when it is applied, it will not reach the roots till after it is rained on. On heavy clay soil, it would not leach through during the winter. Theoretically, sometime after mid-winter, would be best, as the nitrogen would reach the roots just about the time that they become active in the spring growth; practically, it is better to haul it out before the rains leach it out in the corral.

* * *

POTATO SCAB.

Editor Cultivator.—Will carbon bisulphide kill potato scab? If so, what treatment?—Subscriber, Fallbrook.

The best remedy for potato scab is corrosive sublimate, about two (2) ounces to 15 gallons of water. Dissolve first in hot water. Let the seed potatoes soak in the solution for about an hour and a half before cutting them. This is the most approved remedy for potato scab. Bi-sulphide of carbon may do the work, but no formula for its use has come to our notice.

CITRUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

INJURIES TO THE ORANGE CROP.

We have been asked for an opinion on the amount of damage done the orange crop by the desert wind that blew during the first week in December. We are not in a position to know. The men in the central exchange are the ones to put this question to. We know that they have been injured in some parts of the Pomona valley, fully 50 per cent., at some points perhaps 80 per cent., and at other places, practically nothing. Some growers claim that the wind direct, did not do them any damage, but the dryness of the atmosphere, the result of the desert winds, has caused their fruit to run to smaller sizes than it otherwise would.

We have noticed that in some places, the leaves have been nearly all blown off on the east sides of the trees, leaving the fruit exposed. There is some apprehension that this fruit will be frozen. It is our opinion that such fruit should be cut off and thrown on the ground and never shipped. It is scarred to begin with and in places already shows signs of shrinking.

The wind in question was perhaps the most severe ever known during the orange growing period in Southern California. We have had harder winds but not of such long duration. It will no doubt impress upon the minds of growers in the wind belts, that the hedge is one of the necessary adjuncts to orange growing.

* * *

BEST STOCK FOR ORANGES.

Editor Cultivator.—Will you please tell me which is the best stock for oranges? Some tell me that Trifoliata is the best, others say sour and others pomelo. Please give me the latest on this subject.—Subscriber, Ontario.

Trifoliata has been tried in certain places and the report seems favorable to this stock. It is claimed that navel trees budded on this root will grow as large as when grafted on other stocks. Trifoliata has always been used as a dwarfing stock, and while there are some navels growing and bearing on it, we do not know of any old trees that will prove that they will grow as large as any under proper care.

Sour stock is a safe root, the trees do well from the start but are slower coming into bearing than when grafted on pomelo or sweet stock. If we were going to plant on land that is rather heavy, we would use sour stock, but on sandy soil, we would take pomelo. It might be that in a few years we would prefer Trifoliata, but from our present knowledge we would not. Pomelo makes a magnificent root system and is a rapid grower. Sour stock that has many surface feeders, produces large crops of oranges, but trees which have few lateral roots, are very poor bearers.

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JUST WATCH IT GROW

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Deciduous - Citrus - Ornamental

Figs, Apricots, Peaches, Quinces,
Plums, Pears, Prunes, Persimmons

Washington and Thomson's Improved Navels, Valencia Late, Eureka and Villa Franca Lemons, Pomelo and Citron

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Chico Nursery Co.

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NO EXCEPTION

Last year we said the Tilton Apricot was a regular bearer. NEVER FAILS. This year is no exception. Every tree bore heavily; old ones as well as the newer planted orchards.

Fifteen Years' Test

and still the

TILTON APRICOT

Is a winner. Large, highly flavored, good color. In the dried fruits the Tilton won First Premium at the Great Central California Fair. Liked by canners. Original tree 18 years old near our nursery. Buy trees where you can get true to name buds from original stock from the Original Tilton Nurseryman. A thrifty lot of peaches and other deciduous trees.

J. W. BAIRSTOW, HANFORD, CAL.

WHERE THEY GROW FINE ORANGE TREES

Covina and Blanchard's Citrus Nurseries

In passing through the country directly east of Los Angeles, one notices one of the prettiest citrus sections in the great level stretch of land extending from a short distance east of the San Gabriel river and on through Pomona and Ontario. In the center of this beautiful section lies a cove or protected section which we have heard termed Citrus Cove, because of the peculiar adaptability to citrus culture. This little cove is named Covina. We don't know the history of its naming, but it's all right.

The other day H. D. Blanchard of that city took in the Cultivator missionary and said, "Let's drive around and see something." Mr. Blanchard has been in Covina several years and so understands where to drive past the places which show fine care, strong growth and loads of fruit.

The crops of fine looking fruit are truly marvelous.

After driving for some time Mr. Blanchard called attention to some exceptionally thrifty young trees planted a couple of years since, and soon to another lot planted a year ago. These were on ranches which had been receiving intelligent care and had apparently come from a nursery which had given them a good start in life. Such young orchards were pointed out by Mr Blanchard and with apparent pride, until it finally developed that he had a sort of parental interest in these trees, as he had grown, budded and cared for them in his nurseries. The interest created by the general thrift and condition of these trees, caused a desire to further look into the conditions which prevail in the nurseries where they were grown. The cuts given on this page give something of an idea of what we saw, excepting in this, that the upper one shows the block of navels before its second or last "topping."

These trees shown in this cut are on three or four year old roots from five-eights to an inch and a quarter in diameter above the buds. In July they had reached a height above the lath to which they were tied and were at that time topped to force the heading. Then again recently they were all topped to check the growth and harden the wood, and now they show a magnificent block of trees almost as uniform in size and appearance as a bushel of peas.

In addition to the block shown in the cut there are other blocks of Valencias equally as strong growing as the Navels. Of these he has a greater number than of the Navels, and because of the good prices commanded by Valencias this past season, there is but little question that these trees will readily find market at good prices. Already some have been purchased and more are being sought for for early planting this spring. In fact, we saw one small orchard which was planted less than two months ago. This is rather a departure from the usual custom of spring planting, and is done that the roots may become thoroughly established for the early spring growth.

The lower picture shows the manner of delivering the trees, each one being taken with a large ball of earth, so that its removal from the ground gives the least shock possible. This method is, however, not preferred by some, because of the fact that the root system is reduced more than is the case where the dirt is taken from the trees and the longer tap roots and laterals are taken up. Mr. Blanchard allows choice of methods to the purchaser and will use utmost care in either case. Where the balling is not done, the roots are given a mud bath and packed in wet straw so as to be transferred to their new home with as little shock as possible.

The soil in which these trees grow is a sandy loam which has induced a mass of fibrous roots, a very important factor in the thrift of orange trees. Another advantage is the age of the roots; these being three and four years old. This assures strong, vigorous growth of the trees.

The owner's attention has been given exclusively to ths caring for the stock, which from its appearance has been very intelligently done, and doubtless more satisfactorily than it is when depending upon others for the most of the work.

Mr. Blanchard says that the sales during the last season were most satisfactory to every customer whom he had, every one of whom stand ready to speak a good word for the Blanchard stock. These purchasers will be referred to when any customer may wish further information regarding the trees, For instauce, Mr. H. M. Houser of Houser Bros. Co., speaks in highest terms in the following letter, which he voluntarily handed Mr. Blanchard;

Covina, Cal., December 29, '03.

To Whom it May Concern: I wish to say that I have planted trees taken from the Covina Nurseries of H. D. Blanchard and can speak of them only in the highest terms. They are true to name, thrifty, strong growing stock.

H. M. Houser.

But still better, as we noted before, is the drive about and seeing the trees in their growth, which they have given after one and two years planting.

The proof of the nursery is the tree which it grows.

* * *

Covina can be reached by the Southern Pacific. is only about twenty miles from Los Angeles and is well worth a trip to see the orchards, the fruit, the town—it's a pretty little town—and Blanchard's nursery.

Geo. B. Warner's... Est. 188

Orange County

Nurseries

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Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Lequats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.

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Olives, Oranges, Lemons,
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New Catalogue of 72 pages mailed free.

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Long stroke, steady movement, runs smoothly, perfectly noiseless.

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Are are specialty. We have an extra large stock of strictly first-class gum trees for sale this season, consisting of twelve varieties extra fine large plants. We are headquarters fo

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ORANGE, POMELO AND TRIFOLIATA

the great frost resistant. Citrus and deciduous fruit trees, grape vines, ornamental trees and shrubbery, roses, palms and potted plants. Send for catalogue and information.

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It is put up in small compact reels, weighing about 100 pounds each, and is very easily handled on the field.

Write for descriptive circular.

Pacific Hardware & Steel Co.
401 Mission Street, San Francisco.

Coast News and Notes

BY R. A. DAGUE, ROOM 416, HEARST BUILDING, SAN FRANCISCO

MISCELLANEOUS.

One-fourth of the population of Chicago is German.

There are now 950 miles of oiled highways in California.

The Woodland Democrat says that Yolo county wants more small farms.

Sixty thousand exhibts have been so far collected in the Philippine Islands for the St. Louis Fair.

Fluming in the vicinity of Fresno has ceased for the winter. The output exceeds that of 1902 by 4,000,000 feet.

The last Federal census shows that but nine per cent of native born Californians have removed from the state.

Work is well under headway on the Huntington Flats, Montana, for the construction of an irrigating canal for the reclamation of 30,000 acres.

Recently the Pajaro valley Board of Trade sent to Los Angeles 114 varieties of soil, to be placed on exhibition in rooms of Peck's Tourist Bureau.

The Edison Electric Company contemplates expending $350,000 in erecting electric plants in Southern California.

The continued dry weather is driving down into the Montecito valley, Santa Barbara county, from the mountains, wild animals.

The Farmers' Institute recently held by Professors Fowler, Quayle and Sprague, at Santa Rosa, was well attended, and was of great interest to the farmers.

The great Northern Pacific railroad put in operation a rule on their system which provides for the dismissal of any employe who drinks any alcoholic liquors.

Wilton & Ross, of Riverside, have been awarded a contract to construct 500 feet of tunnel of the Salt River irrigation canal, in Arizona. Their bid was $38.75 a lineal foot.

Another use has been found for crude petroleum. Farmers along the San Joaquin river spread it over the levees, and say it largely prevents the washing away of soil.

The great excellence of Oroville oranges seems to be ackowledged even in Southern California, as Los Angeles dealers have recently ordered good sized shipments for the New Year's trade.

The Government asked for bids for hay to be sent to the Philippines. San Francisco houses bid 92½ cents per one hundred pounds. Seattle's bid was $1.27 to $1.40. Five thousand tons are wanted.

An Englishman has invented what he calls a "Pedrail." It is a machine that walks like an elephant, and will haul huge wagons hitched to it, or as many plows across a field as can be attached.

The suit to test the constitutionality of the Woodward law has been set for January 8th, when the commission houses of San Francisco will fight to prevent the establishment of a free market on the wharf.

The California Promotion Committee, 25 New Montgomery street, San Francisco, request everybody to send them the names and address of eastern friends who may be interested in this state, to whom the committee may send literature.

Supervisor Ormsby, of Yolo county, has been experimenting in oiling roads. He used 120 barrels to the mile. Oil and labor cost $132.50 per mile. He spreads fine gravel on a hard smooth surface, then applies the oil. It soon hardens and makes a fine highway.

The Sonoma county grange has adopted a resolution endorsing the action of the San Francisco Harbor Commissioners in canceling the permits of certain wholesale produce dealers who were charged with having refused to deal with merchants who did not belong to the combine.

Now comes H. W. Merkel, chief forester and constructor of roads in Bronx, part of New York, who says the application of tar to roads is much better than oil. It is a success in France, and will prove to be such here. Mr. Merkel has tested it and is highly gratified with results. The tar is boiled, then it was put on in a very crude fashion by hand from a big watering can. It had penetrated nearly an inch after being on the road only three hours, and in a short time the road was solid and in splendid condition.

The scientific friends of Luther Burbank, in different parts of the world, requested a grant from the Carnegie Institute in his behalf, to aid him in further and fuller investigations. He respectfully and firmly declines the proposed assistance, saying that he now is called upon personally by about 6000 information seekers, and receives 30,000 letters per year. If he should accept this grant, additional thousands would feel that they had license to enter his private grounds, consume his time and so overwhelm him that he would not be able to go on with his experiments.

The new freight rates on the Southern Pacific and Santa Fe will go into effect January 18. Thirty articles going east will be raised and about 100 coming from the east. The so-called postage stamp rate of $1.25 per 100 pounds on oranges and lemons from Southern California to all eastern points is not to be disturbed. The rate on nuts of all kinds will be jumped 10 per cent. About 200 carloads of honey go east from California. The rate on such shipments will be advanced 12 per cent. Eastbound shipments of machinery will be jumped from $1.25 to $1.40 per 100 pounds. A similar raise is to be made on machinery shipments into California.

AGRICULTURE.

Quite a fleet of ships has recently left San Francisco for Central America, to be loaded with coffee.

An unusual large area of wheat and barley are being sown in the Sacramento valley.

The Tokay is the popular grape in Sacramento county, and a large area is now being planted to that variety.

Proprietors of steel works from Pennsylvania have purchased 20 acres at Point Richmond and will invest $6,000,000 in the plant.

There was shipped from the Pajaro valley in 1903, 556 carloads of berries. Watsonville strawberries were in the San Francisco markets holiday week.

On some farms in the Yakima valley, Washington, 600 bushels of sweet potatoes were raised to the acre last fall. The crop is new to the people of that section.

There was sold in St. Louis, Mo., Dec. 1, 3,340,000 bushels of wheat, representing a cash value of $3,000,000. The grain was purchased by a syndicate headed by Corwin F. Spencer.

The Washington farmers are selling hundreds of tons of potatoes at 45 cents per 100 pounds, delivered on cars. The potatoes are going to Kansas City and other eastern cities.

The culture of ginseng is receiving renewed attention in California. A few years ago it brought $4.75 to $9.00 per pound. Recently it sold in New York at $11.50 per pound.

Thomas Taylor, during holiday week, drove into Santa Rosa with a wagon load of luscious watermelons which he said he sold out. At this particular time it was ten degrees below zero in Iowa and Illinois.

In the vicinity of Livermore, in Alameda county, there are seven vineyards that aggregate 2268 acres. There are in the same locality thirteen wineries and seven distilleries of brandy. The average product of the grapes in wine is 450,000 gallons annually.

G. W. Bowser, of Coombsville, Napa county, is accorded the credit of introducing Pencilaria in that county. Soil too poor for corn will produce 90 to 100 tons per acre and cattle prefer it to corn fodder. Three to six cuttings per season can be made.

The largest single grape vine in the world is growing near Carpinteria, Santa Barbara county. It exceeds four feet in circumference and its branches

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Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

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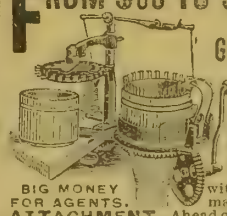

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LEE SEED CO., Burnt Corn, Ala.

FINE ORANGE TREES

One-year Buds on two-year roots.

Navels and Valencias

H. M. COLE

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I will sell my ranch one mile east of San Bernardino, consisting of 64 acres, mostly damp land, peat or underlaid with peat. This is the finest dairy and alfalfa ranch in San Bernardino county. Will sell with implements and stock if desired. For price and terms, address

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Valencias, Washington Navels and Eureka Lemon Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.

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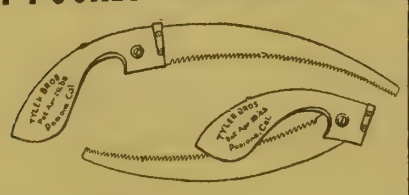

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And is much more useful to the horticulturist. The blade is thin and of the best steel. The long teeth disposed at the proper angle makes it a rapid and smooth cutter. The handle is the right shape. **Price $1.00.**

DEALERS WANTED EVERYWHERE.

GEO. R. TYLER **Pomona. Cal.**

ENCINAL NURSERIES

SUNNYVALE, CALIFORNIA

The largest stock of Apricots and Peaches in Santa Clara Valley

Apricot—Blenheim, Hemskirke, Moorpark, Bracetti. Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings etc.
Prunes—French, Imperi l and Sugar.

Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop

THE

Vernon Nursery

4524 CENTRAL AVE.,
LOS ANGELES, CAL.

Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.

We still have a few of the finest two-year-old walnut trees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

A. YARNELL,

PROPRIETOR

4524 CENTRAL AVENUE
LOS ANGELES, CAL.

Coast News and Notes

CONTINUED

spread over half an acre of ground. Some seasons it has yielded eight tons of grapes.

Not until 1886 did California produce a raisin crop worthy of notice. Now the San Joaquin valley produces nearly all the raisins used in the United States. The average gross earnings of raisin vineyards is $80.00 per acre.

The owners of tule lands in Contra Costa county, employed eastern experts to come here and investigate as to the possibility of raising cranberries on their lands. The report was very favorable, and the experiment will be tried. At the present time all the cranberries in California markets come from the East.

The Sacramento Union rejoices that the combine of the San Francisco commission merchants has been broken by the Harbor Commissioners. It says: "The truck farmers, orchardists and table grape growers of the Sacramento valley have for a long time complained that it was impossible for them to get a chance to sell to all comers on the State's wharves in San Francisco but that they were compelled to accept whatever the combine offered."

An unsuccessful attempt was made last week to "corner" the barley market in California. The center of operations was at Stockton. The local dealers held about 16,000 tons. They bought at from $1.10 to $1.16¼ and soon December options went from $1.10 to $1.20½. The shorts then succeeded in depressing the price to $1.12, but it was back to $1.17½ the first of this week. It looked as though the Stockton dealers would clean up from $50,000 to $80,000 on the deal, but at noon yesterday, the time for settlement, the shorts spread a surprise by delivering 12,000 tons spot barley and breaking the combine.

HORTICULTURE.

The prune sales in Santa Clara county are still slight.

Yolo county claims to have a superior soil for figs.

Oregon prunes are selling as low as 1¾ cents per pound.

All along the Sacramento river the orchardists are busy pruning their trees.

Idaho is coming to the front as an apple growing state. So far no trouble has been caused by the codling moth.

Several carloads of prunes were rejected recently by Chicago buyers on account of "irregular counts."

Japanese oranges were last week selling at five cents per dozen in Seattle, owing to an overloaded market.

The prune growers of Oregon propose to donate a carload of prunes for free distribution at the St. Louis Fair, as a means of advertising their fruit.

The prune market still remains very dull. A Santa Clara grower recently said: "I will sell ten tons of the best prunes that ever grew for 2¼ cents basis.

Two million dollars will be expended in irrigation works this spring on the Gunison river, Colorado, near Montrose. It is designed to reclaim 120,000 acres.

The San Francisco Savings Union has purchased 10,000 acres of unproductive lands northeast of Rialto for $1,300,711.81, including valuable water rights. It is good orange land when irrigated.

Chemists of Montevideo, South America, are manufacturing a destroyer of fruit pests which rarely or never fails to accomplish the object for which it is intended. The destroyer is named "Frutolin," and is to be put on the markets of the world.

R. C. Allen, of the San Diego Chamber of Commerce, predicts that lemon culture will, in time, be the chief horticultural industry in that part of Southern California. He further states that it will not be many years before the whole United States will receive their supply from California.

LIVE STOCK.

Three thousand cattle are now being fed at Chino on beet pulp and hay, and are doing well on the feed.

Petaluma has for the past two weeks been shipping to San Francisco an average of 6080 dozens of eggs daily for cold storage.

California is making rapid strides in the dairying industry. The value of the business during 1903 is estimated at over $18,000,000.

Ed. Featherstone, a hunter, says there are many wild elk in the hills in the western part of Kern county. Last week he ran on to a herd of 18.

Wild game is plentiful near Cloverdale. A week ago George Cox killed, in the foothills, three cinnamon bears, and G. C. Mather killed a large panther, weighing about 100 pounds.

Dr. A. R. Ward, of the State University, thinks that infection is possible from the eggs from hens having tuberculosis, but has not so fully decided. He is still investigating.

On January 1st there was a great jack rabbit hunt near Echo, Oregon, participated in by 300 men and boys. 10,000 of the animals were killed. Three miles of wire netting caught the rabbits.

Clarence Thornton, who lives near Tulare, a mere youth, is getting a good start in the live stock business. He recently purchased from A. J. Lefever, of Visalia, a Poland China sow weighing 650 pounds, for which he paid $65.00.

At a late meeting of the Sonoma County Co-operative Poultry Association a report was made to the effect that the San Francisco retailers agree to cut loose from the commission men as soon as the association is in position to supply them with eggs direct. Steps will soon be taken by the association to establish in San Francisco a store house to handle the eggs.

Governor Pardee has established a cattle quarantine line extending along the north boundary of San Luis Obispo county, and thence northerly and easterly along the boundaries of Kern and Fresno counties to prevent the spread of the Texas cattle fever into Central and Northern California.

The Santa Barbara County Stock Raisers' Association meet frequently and are putting forth vigorous efforts to stamp out the Texas fever tick in that locality. They assess themselves an annual tax of $250 and an additional tax of two cents per head of cattle owned by any member. The executive committee is E. Sheffield, chairman; F. Bishop, Charles Black, Eduardo Cuesta, James Sloan and A. H. McKay.

One of the favorite drinking fountains now in the market is the Novelty Fountain, manufactured by Mr. Church, with the Germain Seed Co., Los Angeles, and for sale at the store of that firm. It provides perfectly clean water all the day, has an air chamber over the top which aids in keeping the water cool. One of its most important features is the bail, by which it may be suspended, thus keeping it out of the dirt.

* * *

Theodore Payne, the nurseryman and seedsman, at 440 So. Broadway, Los Angeles, is refitting and rebuilding the front of his place. He will have a fine plate glass front and store room for a large stock of seeds and potted plants.

FERTILIZE YOUR TREES

Write today for Free Circulars describing process of preparing Sheep Manure; gives results obtained from its use, and proofs of economy.
Nature's best gift to impoverished soil.

Geo. C. Roeding,
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HOME-GROWN **FRUIT TREES**

True to Name, is what you want
Shade Trees, Berries, Roses, Pansies
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STRAWBERRY PLANTS

500,000 plants of all the leading varieties, GROWN FROM PEDIGREE STOCK. Interested parties invited to visit our place and see Brandywine and Belts in full bearing.

MILLER & CORSON
Home Ranch, N. Hill Ave. Pasadena, Cal

BERRY PLANTS

Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
For descriptive list address

W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

Strawberry and Dewberry Plants

Large stock of good, thrifty plants on new soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.

A. E. Harrington **Montebello, Cal.**

150,000
Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina

ONE MILLION
Gardena Dewberry
PLANTS FOR SALE
A. R. RIDEOUT **Whittier, Cal.**

Berry Plants

Lady Thompson, Brandywine, Excelsior. Guaranteed Eastern Stock. Also Gray's Dewberries and Blackberries. From this A1 stock in virgin soil you will get plants that will give you the highest results Write today.
J. PARSONS - GARDENA, CAL.

BERRY PLANTS

Arizona Everbearing, Saxton's Noble, Excelsior, Brandywine, Sample P. Coruna, Mexican Gladstone, Gray's Gardena Dewberry, Loganberries and Blackberries.

F. W. UTLEY, Arlington, Cal.

Phenomenal Berry
PLANTS

This is a wonderfully productive berry. Write for descriptive circular and price list. Also grower of Mammoth Blackberries and Gray's Gardena Dewberries.

H. J. LAWRENCE, JR. **Fairoaks, Sacramento Co., Cal.**

Early Bovee Potatoes

My guarantee, true to name. I find them the best and earliest potatoes grown. Send orders now for spring planting. First grade, 2½ cents per pound; second grade, 2 cents per pound.

W. J. Broad - Glendora, Cal.

GRAPE CUTTINGS

Orders taken for Grape Cuttings from

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Red Emperor
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NO DISEASED VINES

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P. O. Box 384 **Pasadena, Cal.**
Vineyard Corner Hill and Washington Streets

Sievert Oil Burner Co.

A Perfect System of Heating with Distillate Oils. Made in sizes for Stoves, Ranges, Bake Ovens, Furnaces and Boilers. Send for circular

1005-1007 N. ALAMEDA ST., LOS ANGELES

POULTRY FOR PROFIT

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

Last week we had a talk on the fertility of eggs. It is a subject of such importance to poultry raisers that I must add a few words in this issue. We decided that vigor, exercise and proper food is necessary for fertility. I want to emphasize that green food is more necessary for fertility than even animal food. If you cannot give the fowls a properly balanced ration, then give them all the green food they can possibly eat. It is absolutely essential for the fertility of the eggs. But how can we get green food at this time of year? If I cannot get green alfalfa or clover, I go to the feed store and buy a bale of alfalfa, one of the bales that is full of leaves, or the last bale baled, with the leaves swept up in it. A very little experience will enable one to choose the leafy bales. I run that through the clover cutter, fill a bucket with it, pour scalding water over it, put a weight on top, feed part of this in the feed trough at noon, and the rest I mix with the mash at four o'clock, using the alfalfa tea, which is as good as beef tea, to mix with the mash. I also use alfalfa hay in the scratching pens instead of wheat straw, and I frequently give the breeding pens a good fat pumpkin cut in two, a large beet or a cabbage hung up. These keep them in green food and also vary the monotony of the poultry yard by keeping the fowls busy. Busy fowls will not pull feathers or eat their eggs. Busy fowls will lay more eggs and the eggs will be more fertile. Idleness is as bad for fowls as it is for human beings.

Two years ago a good old German worked for me for a short time. He believed in feeding fowls all they would eat, and would get up before I could be there and fill the troughs with wheat. In vain I remonstrated, and told him the wheat must be thrown into the straw. He declared they would never find it in the deep straw and they would starve. About two days later one of my very old hens, a great pet, was found dead of apoplexy, under the perch. He was greatly distressed; wanted to know what was the cause of its death. I said we must cut her open and see. He quickly opened his pocket-knife and we performed a post-mortem examination, and found the hen abnormally fat. This was an object lesson for him, as I explained, "You will feed them too much wheat in the trough, and will not put it in the straw, so they get too fat and die." After that their fare was reduced to one small handful (about an ounce and a half) per hen, and the hens had to work for it.

* * *

Trap Nests.—Last year at this season I wrote a long article on trap nests, giving plans for making one of the cheapest, best and most easily constructed that I have tried. If there are any readers of the Cultivator who would like those plans, I will gladly give them in another paper.

While a great many readers of the Cultivator may not be able always to use trap nests, as traps, all of the time, they can get a great deal of benefit from their occasioanl use as traps, using them as open nests the rest of the time. There is no way to learn which are the good layers in the flock so easily and with so little expenditure of time, as can be done with the nest that shows the hen that laid the egg. It would hardly be possible to describe the great progress that has been made in developing the egg-producing qualities of fowls by careful, skillful, painstaking observation and by the use of the trap nest.

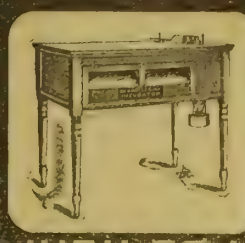
The records from trap nests are some of the most interesting and instructive reading that I have, and it seems to me that it would be impossible to build up an egg flock without trap nests. With the enormous cost of feed, no one can make a success of the poultry business by keeping hens that do not lay, or that lay semi-occasionally.

The best way to identify the different hens is to band them with numbered leg bands, that will not lose off. Then trap her when she lays, mark the number of her brand on the egg and record it in a little book. In small flocks, especially of mixed breeds, the eggs of each hen may differ so much in appearance from the eggs laid by the others, that it may be possible to know them apart, but with large flocks, and especially of line-bred stock, many of the eggs from different hens resemble each other so closely, that it is practically impossible to identify them. The size, shape, and grade of color changes also, with many hens' eggs as laying progresses, so that the only infallible test is the trap nest.

It may appear to many to be a great task to keep track of every individual hen, and it is, more or less, but it pays, for it enables one to build up an egg-laying strain. Keep the eggs from the best layers, hatch them; next year keep the eggs from the best layers again, and so on each year. Cull out those that do not lay well, fatten them and sell them, and in a few years your egg yield will simply astonish you. This can be done by the use of the trap nets.

One of my correspondents asks, "Can you tell by the shape of the egg, or by the little wrinkle on the small end, which eggs will hatch out pullets?" The ancient Romans thought that long eggs contained male chicks and round eggs female chicks, but it has been proven in our day and generation that this is a fallacy. I think I have, however, discovered that the first eggs laid by a hen after resting, that is, after moulting, or incubating, are usually eggs that will hatch out females. I know that my White Rocks laid eggs that hatched pullets in the fall, whilst the cockrels predominated in the late spring. Also I noticed that the eggs first laid after a rest were darker in color. Gradually they became much lighter and then they contained cockrels. This was simply one of the interesting traits that I observed in my chickens; it might not prove the same with other breeds, although a friend of mine noticed the same in White Wyandottes.

JUBILEE INCUBATORS



The "Business" Machines of the World
Use the Jubilee—There is every reason why you should and no reason why you should not.
We make them in sizes from 60-eggs to 1056-eggs capacity—Every one perfect. If you are interested in poultry for profit send for the Jubilee Catalogue No. 30.
JUBILEE INCUBATOR CO. OAKLAND, CAL.

The Real Thing
For Healthy Chicks
Chamberlain's Perfect Chick Feed
The World's Chick Feed of Today.
Price—1 lb ,5c; 50 lbs , $2.00; 100 lbs., $3.25
If You Want Your Hens to Lay, Feed
Darling's High Protein Beef Scraps
We Buy in Car Lots. Price—1 lb., 5c; 50 lbs., $2.00; 100 lbs., $3.75
Our Poultry Catalogue Mailed Free on Application.
GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

Emery's Pure Meat Meal
Don't believe all we say, but just enough to buy our Poultry Foods
Ask your nearest dealer for them and take no imitations.
Emery's "B. B. & B."
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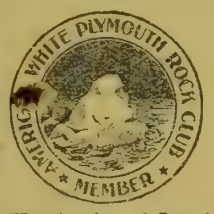
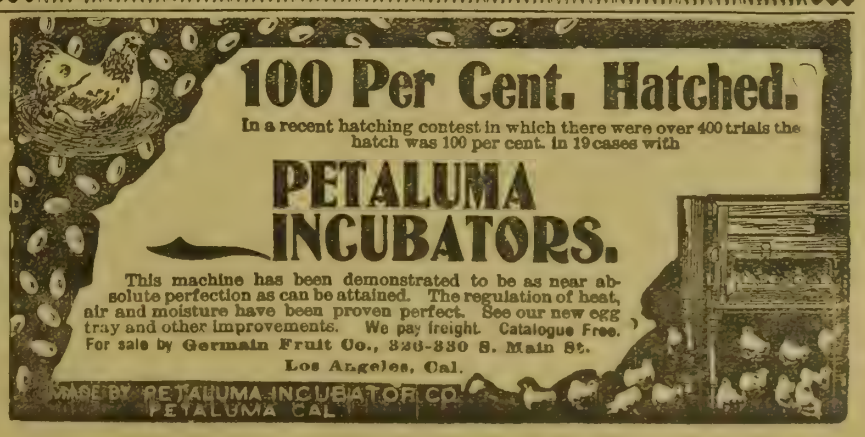


Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen
Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.
Yards closed Sundays. Send for illustrated circulors.
T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

White Leghorns AND Barred Rocks
The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.
G. I. LYTLE, 2006 So. Grand Ave. Los Angeles, Cal.



100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL.

Petaluma, California is the Home of the

MR.
One of our salesmen, on his
Photograph

There are many poultrymen who keep all the way from 4000 to even 6000 and 7000 laying hens and who hatch from 12000 to 20000 chickens in a season.

Petaluma is where Coulson's Balanced Ration Egg Food is prepared. About one hundred tons a month of this Egg Food are sold to the poultrymen living near Petaluma. Some of these poultrymen gather 1000 to 1500 eggs every night and sometimes more.

At one place it was proven by careful estimation that in one square mile there are more than 35,000 mature hens and within a radius of ten miles of Petaluma there are about 900,000 hens and in some seasons of the year there are from 2,000,000 to 3,000,000 little chicks besides. For instance, Freeman Bros. have about 12,000 hens; T. E. Thoergesen, 7000 hens; Byron Purvine, 6000, and there are many more who keep an average of about 5000 hens. One thousand hens is considered a small flock.

Now, every man or woman who raises poultry knows that of the many things requiring constant attention, nothing is more important than the feeding question. Fowls must not only have plenty of feed, but it must be of the right kind or they will not thrive and prosper; and unless they do there is failure in store for the poultry raiser. But there is a science in feeding. Laying hens should be fed food that makes egg production and at the same time strengthens the hen. Profits from poultry depend how and what you feed.

The Balanced Ration Egg Food, prepared by the A. R. Coulson Company of Petaluma, is what the Petaluma poultrymen use to make their hens lay. Not only Petaluma poultrymen, but poultry raisers all over the State of California are beginning to find that it is more profitable to feed Coulson's Balanced Ration Egg Food than any other kind of feed. A. R. Coulson, the Chicken Doctor of Petaluma, has made a special study of the feeding problem and he has got it down to a science, and so successful has been the use of this food that $25,000 was invested by the company to manufacture this feed and sell it as cheap as possible. All the ingredients are purchased in carload and even shipload lots, as steamers and schooners come daily to Petaluma loaded with grain and feed. By purchasing everything in immense quantities they are able to use the best of everything needed in the feed and still be able to sell it to the poultrymen at reasonable prices. The granulated or fine ground dried beef blood is prepared by Armour & Co. at the largest packing houses in the world, at Kansas City, and shipped to the A. R. Coulson Co. in 25 and 30 ton lots (the value of a big carload of this articles is nearly $2,000.) Fine ground beef meal and beef scraps are also shipped from the packing houses at Omaha and Chicago. There are about twenty different articles used in preparing Coulson's Egg Food and they are all purchased in large quantities and mixed in a large electric mixing machine (the only one like it on the Pacific coast), and from 250 to 300 sacks a day are turned out at this factory. That the confidence of their earliest customers was not misplaced is shown by the rapid growth of their business. Today they have the best equipped establishment of its kind on the Pacific coast, occupying over 5000 square feet of floor space in California's famous poultry city, Petaluma.

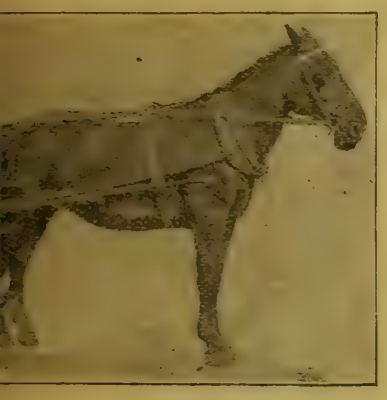
The company has a factory and store at 772-774 Main Streets and a factory at First and E Streets. Here they manufacture medicines, etc., but their principal output consists of poultry medicines and balanced rations for poultry and stock. They send out

SCHOONERS BRINGING FE
EG

AT MECHANIC'S PAVILIO

THE A. R.
PETALUMA

ne White Leghorn City
World



MILES,
ourney to Northern California.
Watsonville, Cal.

TALUMA, WHERE COULSON'S
MADE.

FRANCISCO, DEC. 1-5, 1903.

from ten to twenty carloads of poultry foods a month. A good deal of the Egg Food is used in Sonoma county, but they are rapidly covering the Pacific Coast, there being more than 150 stores handling this feed in California. Many of the poultrymen near Petaluma use 40 or 50 sacks a month of prepared food for laying hens, hauling it out to their ranches in four-horse wagonloads. The wholesal feed dealers purchase as much as 500 sacks at a time.

BUYS A CARLOAD OF COULSON'S POULTRY FOODS.

A. De Rezendes, who has a 400-acre dairy and poultry farm four miles from Tomalis (Marin county, Cal.) this week gets another carload of Coulson's Egg Food and Chick Food—10 tons, 220 sacks, of the Egg Food for the laying hens, and 5 tons, 110 sacks, of the Little Chick Food. From his 850 laying hens he is now getting over 40 dozen eggs a day. Besides the laying hens, Mr. Rezendes has about 1500 pullets, about 5 months old, that will start laying in a short while. And he is hatching out chicks at the rate of 1500 per month. He has already raised nearly 4000 chicks this season, which are now big enough to go to roost. All these chicks and growing pullets were raised on Coulson's Chick Food.

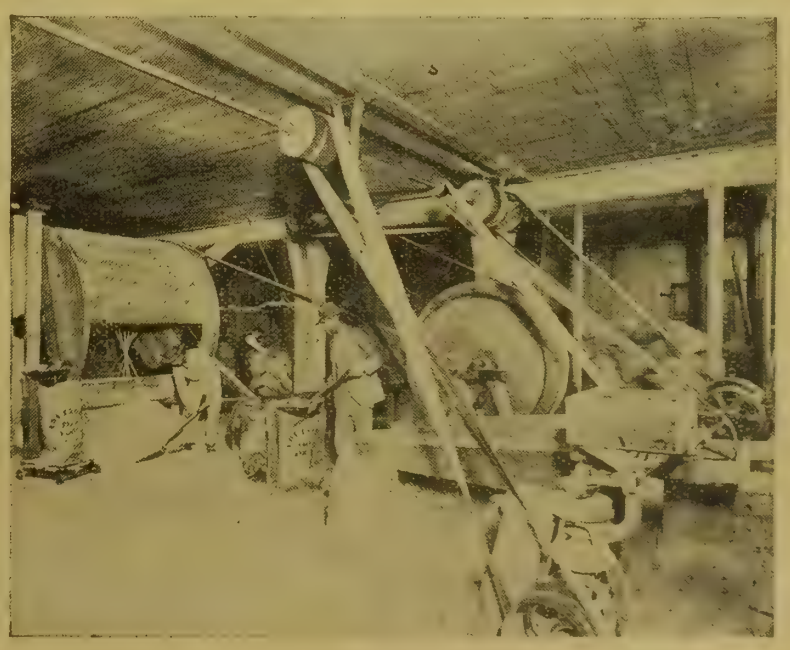
Besides the Egg Food for Hens, they also prepare the Coulson's Chick Food, which is composed of the best selected grains, seeds and meals, 18 different kinds, each in a certain proportion to make a complete balanced ration for infant and growing chicks, turkeys, etc. It is recommended very highly by poultrymen all over the State. Mr. C. H. Purvine, near Petaluma, contracts for this little chick feed in 100 sack lots. Mr. Purvine hatches out a brood of 3000 chicks every six weeks and he feeds the little ones a whole sack a day of Coulson's Chick Food. Mr. Purvine is an old poultry raiser, having been raising poultry for about 15 years, and he has better luck on Coulson's Chick Food than any other kind of feeds. Mr. Garozzi, near Tomales, raises many thousands of chicks, and uses many tons of the Coulson's Chick Food. Coulson's Chick Food promotes the rapid growth of the chick and fully nourishes them, making a bird with a large frame and plenty of meat, and the chicks seem to thrive on it wonderfully and the death losses are reduced to a minimum.

The A. R. Coulson company also manufactures various poultry remedies, such as Roup Cure, Lice Killer, Cholera Cure, Condition Powder, etc. It was Coulson's Cholera Cure and No. 3 Condition Powder that cured the chicken cholera at Fallon creamery last fall when so many thousands of hens died with the disease before these remedies were used.

The company also runs several wagons on the road. The wagons go all over the State of California, visiting the homes of the poultrymen and soliciting orders. On some of their trips they are gone nearly a year before getting back again.

FREE

This company gives out to any poultrymen, a combined 36-page poultry account book, egg record and catalog and any one interested in the poultry business should send for one, as they are free. Address



COULSON CO.
CALIFORNIA

WATER FOWL.

Nearly everybody knows that charcoal is the safest and most efficient disinfectant and purifier in nature, but few realize its value. Charcoal sweetens, it effectually improves, it absorbes the injurious gasses which collect in the stomach and bowels, and further acts as a natural and eminently safe cathartic. When applied to the mash fed to ducks, it puts them in good condition for the breeding pen or show room. It tones up their system and brightens up their plumage to perfection. Up to three years ago my ducks used to lay around, being both lazy and sluggish. I knew from experience, things were not just as they ought to be. So I wrote a letter to an Eastern duck raiser. The reply was "do you feed charcoal?" No, I did not, but I commenced to feed it three times a week, and have kept it up ever since. The result is, my ducks are always on the alert, and pleased to say, always in a healthy condition. A great many people are prejudiced against the duck. They are under the impression that they are very dirty creatures and will eat their heads off. I have always contended that they can be kept just as clean as chickens, and a visit to my farm will convince the most skeptical. Then again they say "no money in ducks," well, there's one thing I know, that the duck raisers in San Francisco are getting $6.50 per dozen for eight-week old ducklings. Two weeks ago I sold several dozen ducklings, any color, four weeks old at $5.00 per dozen to a San Francisco firm. Don't you think there is money in this class of poultry? Can you get $5.00 per dozen for four weeks old chicks for commercial purposes? You will honestly say no. I suppose you know that chickens are heir to a score of different diseases, while ducks are heir to only three, and two of these diseases are the fault of the duck raiser. And again, Mr. and Mrs. Chicken are troubled with several kinds of lice, which you find a hard proposition to master, while the duck can boast of being proof against this parasite. I have often wondered why the farmer and orchardist does not keep a few ducks on their places, and why the chicken men do not keep a variety in conjunction with chickens. Don't you know that they will pay for the food they eat and the chickens as well? An exhibitor at the San Francisco show told me that he bought a few Pekins for his boys, they raised three or four hundred ducks from them, that the ducks paid for themselves and the running expenses for the house for one year. Is there money in ducks?

THE BUSINESS END OF POULTRY

Vincent M. Couch, writing in Vick's Family Magazine, says:

To know whether you have made a profit on your hens or not is not easily told unless accounts are kept. Charge the hens up with all the food given them, and also interest on capital invested. Then give them credit for all sales and what eggs and poultry is used in the family; the difference represents the profit, unless you charge for your labor, the value of that depending on how much it was worth at the time.

For stock, which will you begin with? If you buy four or five hens this fall, you will be able to get all the eggs next spring required to give you a good start. You may be able to buy some pure good old birds for a little money, and breeding stock can be bought cheap any time at this season for there are lots of them and breeders want to reduce the number for winter. If you wait until spring and buy breeding stock you must expect to pay more money, as then they have been wintered and are matured, so the owner can tell better what they are and about their value. Then if you wait until spring and buy eggs to start with, that means to wait a whole year before you can raise more than what you get from these eggs, and unless you get a hundred or more eggs the number of chicks is not likely to be large.

If you want to make the winter season most profitable in keeping hens, do not feed the non producers. It is not fair to put the flock down as a loss when some of the hens have laid well and helped to support a lot of drones. The use of trap nests is the only definite way to get at this matter. For the best results it may be even necessary to dispose of some of the pullets; they may appear ever so promising, but as egg producers be a complete failure. Just the same as a growing heifer promises to be a good dairy cow, and when she reaches maturity her qualities as a milk giver are wanting. Some hens that should have been killed before they moulted will feather out and look nice and healthy and perhaps lay a few eggs and quit. Find out which ones these are and dispose of them. It is the only way to do to have a clean cut and profitable flock. Then, after you are pretty well satisfied that only the egg producers remain, go to work and make them comfortable and take care of them. Do not have the flocks too large. Ten square feet is the rule for each hen, but I know that just as good results can be had with a flock of 10 to 15 hens, allowing six square feet, as more. But if you must keep 40 or 50, then more space must be given per hen. Large flocks are not so apt to be properly fed as small ones, and as a rule I prefer the small flock every time.

Did you know that onions were a great tonic for fowls? For fowls as well as quite small chickens they are most excellent as a bowel regulator. At this season of the year, when the hens are run down by heat and strain of moulting, the onion will be found very beneficial. If your hens show signs of dysentery at any season of the year, cut up some onions quite fine and give them to the flock two or three times a week. Boil them and mix through the mash and feed at any time. Quite a lot of onions may be raised on a little plot of ground, and a half-bushel will go quite a long way toward stimulating and bracing up the flock. It is claimed that when fed raw they impart their taste to the flesh and eggs of the fowl, but when fed moderately I believe no such results will follow. I believe that the cheapest green food that can be had for winter use is the white or red clovers or alfalfa, well cured but not over ripe, fed either dry or steamed, but better given in a mash cooked. Waste vegetables of all kinds should not be overlooked; they help wonderfully in winter time to give the ration a variety.

The Black Minorcas are rapidly coming into popularity, because of their persistency in laying and the size and volume of their eggs. When two years old they are at their best, and as a table fowl cannot be excelled.

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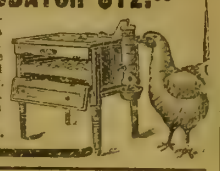

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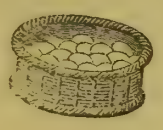

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C. H. SESSIONS, ASSOCIATE EDITOR

DAIRYING VS. GRAIN RAISING.

"Get a Few Good Cows; There is Room for Us All.

That a lack of sufficient rainfall in June, 1903, seriously cut down the grain yield in many parts of the Dakotas, says M. S. French, is only too plainly evident; but that it is really any detriment to the ultimate prosperiey or future wealth of the twin states may well be doubted.

The dry seasons of the 80's forced us to dairying and stock raising, and although it seemed at the time a mighty bad medicine to take, the most of us old-timers now realize that it was just what was needed then, and it may be so with the present drought. The big grain crops of last year gave proof that money might be made in wheat and flax sometimes, and many who were thinking of stock raising put it aside to give grain raising another trial; but now they are about ready to milk cows with the rest of us.

During the dry spell, one could look at a group of farmers on a street corner and easily pick out, by his long face and general look of weariness and sorrow, the farmer who was in small grain alone. The difference between this man's outlook and that of the man who kept a few cows was plainly shown by their conversation, which might be something like this:

Grain raiser: Getting awful dry. Wheat won't be worth cutting if we don't get rain soon.

Teat puller: Yes, pretty dry. But good weather for corn and millet.

The first, with a sad thought of debts that only his grain crop could pay; and the second, with a satisfactory smile that is cream checks were more than paying all his incidental expenses.

A general merchant whose trade is solely with farmers recently said to me: "See here, let me show you the difference between the present time and ten or fifteen years ago." And, going to his safe, he pulled out several hundred dollars in cream checks, all for June, and all in favor of his store patrons. None were very large, but they all counted up. "And now," said he, "I don't carry one man till after harvest, where I used to carry twenty or thirty." And this was not a creamery town, either, but simply a railroad shipping station.

It is a grand thing for Dakota that she is learning this lesson early, while yet there is plenty of new and fertile land left. In many of our older states it was not until continuous cropping to grain had exhausted and nearly ruined the soil that the cow was allowed to come in and partially replace the fertility that had been wasted in the long years of grain raising.

"But," says some doubter, "if we go to milking, butter won't be worth anything." Never you fear; that song has been sung for more than two score years, and yet butter costs more in comparison to the loaf than ever before. The census figures show that the consumers are increasing far faster than the producers; so again I say to my grain raising friends: "Get a few good cows; there is room for us all.

LIVE STOCK EXPORTS.

The live stock exports during the past three months have been exceptionally good, says a correspondent of the Thrasherman, when compared with the same period in the past two years, the aggregate declared value of the exports for the past nine months having been £690,217, or 24.32 per cent more than during the same period last year. The declared value of the horses exported was £23,078, 22.14 per cent more than in the same period last year; cattle, £112,380, 54.84 per cent more than in the same period last year; sheep, £36,559, or 68 per cent in excess of the corresponding period last year; and swine, £5479, or 49.83 per cent more than in the same period of comparison. The imported horses numbered 17.27 per cent less than in the first nine months of the previous year, and the number was the lowest imported during this period of the year for the past nine years. Of cattle we imported during the past nine months, 383,595 head, or 23.57 per cent more than in the same period of 1902; while the imports of beef during the completed period of the current year amounted to 3,567,435 cwt., an increase of 4.09 per cent over the same period of 1902. Taking the aggregate declared value of the live cattle and beef together, we find that the total for the past nine months amounts to £14,376,699, or 7.54 per cent in excess of that for the same period of 1902 The live sheep imported during the past nine months numbered 236,569, an increase of 11.02 per cent as compared with the same period of 1902, and with the exception of the corresponding total for the same period last year, the lowest total imported during this period of the year since previous to 1895. The aggregate quantity of mutton imported during the same period was 3,230,732 cwt., an increase over the period in 1902 of 4.86 per cent, and the largest quantity ever imported into this country in any nine months of the year.

SHOEING AND CARE OF HORSES' FEET.

It may be safely said that more trouble is experienced with the horses' foot than any other part of the animal, and taking into consideration the hardships, carelessness and crude treatment it is subjected to, this is not to be wondered at. As a matter of truth, it consists of hundreds of distinct parts, all interdependent, but each as absolutely necessary as are the different pieces of a watch. The interspaces between the three bones forming its internal framework or skeleton, contain nerves and blood

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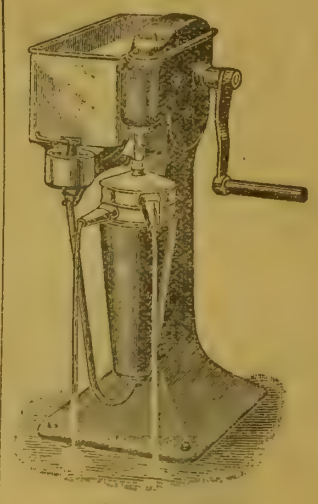
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vessels and various intricate organs to secrete horn and a greasy, watery substance to lubricate, as it were, each section of the whole, and keep the horn of the hoof soft and elastic; all of which are, to a certain extent, dependent for their safety and sufficiency of agitation on the frog, serious effects of concussion to the body when a horse is traveling on a hard road being not only prevented by this, but the concussion upon it itself causing every one of the parts in the foot to perform properly their functions. In other words, it serves as a spring which saves the horse from being pounded and made sore all over. The right care of it is, therefore, a matter of the most vital importance, and though some smiths, because of their desire to have the foot look well, are altogether too free in using the paring knife, the only admissible paring of the frog is to trim off from it the partially dissevered shreds attached to it, provided, of course, there are any. As to paring the hoof, it should be done in such a manner that the foot will be hollow and the shoe rest on the horny portion of it. Ordinarily, the heel should not be lowered too much, and, with some of the toe cut off as it grows long. A colt's foot, when it is first shod, is round, and if, generally speaking, it were only kept so, fewer, indeed, would be the narrow, contracted feet seen on horses. Round and broad is the way nature intended to have them, but, alas! just because the smith shapes the shoe narrow and puts it on the hoof, whose sides he cuts off, a narrow, contracted foot cannot help but be the result; which feature becomes more manifest every time that the horse is thus shod. Happily, however, a foot made narrow and disfigured by improper shoeing, can in a short time be brought back to its natural form if the shoe is rounded and the opposite course pursued to that by which the foot was mis-shaped. Another abominable thing is rasping the wall of the hoof to make it conform to a badly fitted shoe; a shoe too small for the foot should never be nailed on and the hoof then rasped down to meet it. Neither should the shoe be fitted by heating it red hot and then burning the hoof with it until the sole is level; this not only dries out the horn and makes it liable to split readily, but counteracts its natural growth which is essential to keep the foot in a healthy condition. The shoe should, nevertheless, set straight on the foot, being ranged in line with the frog and the toe of the shoe. By looking at the foot, it is not difficult to see whether one side has grown out more than the other side, needless to say, they should be set over so that the foot becomes straight. If the shoe, for example, is nearly half an inch higher on the outside, the constant extra pounding that the inner heel of the foot will receive is quite sure to make it intensely tender and painful, and may lame the horse; thereupon it will be necessary, perhaps, to poultice for a day or two, and afterwards put on a bar-shoe, to render the animal perfect again. From the same kind of shoeing corns are also produced in the foot, which often make the sufferer very lame, and if not speedily remedied may lead to bad cases of quittor, requiring even the skill of a veterinarian ere a cure is effected. The way the horse stands is influenced, moreover, by the proportion of the foot and its angle to the limb that it supports. If both are correct, the horse will stand and move with ease and grace. Hence, in truing, balancing and shoeing its foot, one should have some basis to start on that is forthwith reasonable and rational, and, instead of taking the foot in hand, squinting down over the surface, it is preferable to stand the animal bare-footed on a perfectly level floor and ascertain the correctly proportioned angle by looking down the leg and making sure that it is in the center of the foot; then inspect it for the same purpose from the side view, and, from this observation of the limb, note what its pose is in the foot. Having thus obtained an idea of what would seem the proper proportion, and the right angle of the foot to the limb, the shoe should be adjusted to the foot in such a manner that it will accurately correspond with these. As the hoofs of no two horses are exactly alike, however, it is well, before fastening or applying the shoe to a strange horse, to have some one move the animal both on a walk and on a trot, and look sharply the while to see where the horn of the hoofs need paring the most and where the least. A newly shod horse, unimpared in any way, should stand so that the lower or under surface of the shoe is about even with the surface of the frog of the foot; its feet will then strike squarely on the ground when it moves, and, on farms and country roads, the calks sink sufficiently into the earth for the frog to hit at every step, as well as the shoe, and thereby produce the requisite amount of concussion on the frog to keep the internal organs of the foot in healthful action. Only in case of certain forms of lameness should high heels be put on, and, if the horse interferes or cuts its ankles when traveling, it may be advisable in dressing the foot to pare down the outside as low as possible, and leave the inside high. A shoe with a spring heel should be had for summer, set, when fitted, in a little of the foot, and during winter the inside calk should be raised the highest. Not that a horse strikes or cuts itself with the heel of the shoe; rather it does it, in traveling, with the side of the foot, side of the shoe, or the clinches of the nails, and the more frequently when the roads are rough and uneven. In shoeing an interfering horse, it is noticeable that when it sets its foot down on a level floor one ankle will incline out, and as the other foot passes by it will not strike. Many ailments of the horse, like windpuffs and spavin, are due to bad shoeing, and such a complication of difficulties may be caused by it as to result in laminitis, or founder.

The shoes in such a case should be pulled off and the local inflammation reduced with poultices. If it occurs in summer, turning the horse out to pasture is advisable, and if in winter, keeping in a roomy box-stall, with an earth floor, and giving exercise out of doors daily; the frog of the foot will thus be brought into natural action again. Too much attention can hardly be given to the feet of colts.—Pacific Homestead.

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FLORICULTURE AND GARDENING

[BY ERNEST BRAUNTON, GLENDALE, CAL.

LOCO WEEDS.

Editor Cultivator:—I note in the papers that cattle on Catalina Island are going crazy from eating "loco weed." Please tell me what the plant is like and if it occurs on the mainland.—E. D. G., San Pedro.

We have not seen specimens of this island "loco weed" (and would like a plant with blossom and mature pods very much) but we presume it is one of the Astragalus family, commonly called "rattle-pods" or "loco weeds." We have at least sixteen species of Astragalus in this country alone and it is not known how many are poisonous. They are generally more fatal in desert sections. They are wild peas, usually perennial with blossoms of a variety of colors, light yellow being quite common. The pods of all poisonous species are inflated and when seeds are ripe, will rattle when disturbed, hence their common name. No doubt the species referred to occurs on the mainland.

* * *

MUTILATING CONIFERS.

From the artistic as well as physiological point of view, it is barbarism to remove the lower branches of conifers (cone-bearing trees), which the tree needs to shade its trunk and standing room, and often, when deprived of the same, will replace first before starting again in its height growth.—Prof. B. E. Fernow, Director, College of Forestry, Cornell University.

* * *

LANDSCAPE GARDENING.

Many people are unable to distinguish between landscape gardening and gardening proper. The first is a profession, the latter a trade. The late William Saunders, Supt. of the gardens and grounds of the United States at Washington, D. C., says: "Landscape gardening is a comprehensive art, combining the genius of the landscape painter with the art of the practical gardener. The professor of this art should also possess a competent knowledge of the general principles of botany, architecture, geology, hydraulics, hydrostatics, mechanics, laws of heat and ventilation, horticulture and vegetable physiology." Prof. L. H. Bailey says: "Landscape gardening must be sharply distinguished from gardening. The former is the making of pictures with plants; the latter is the growing of plants without reference to the picture. In one, the interest centers in art, in the other it centers in plants."

THE RAISIN MARKET.

The Fresno Republican contains a statement made by Mr. Chaddock, who has just returned from a trip to the principal raisin markets in the East. As will be seen from reading the article, a hopeful view is taken for increased prices this spring, as Thanksgiving cleaned up the market and opens the way for what appears to be an active trade soon.

"My trip," said Mr. Chaddock, "was partly for the purpose of investigating the condition of the raisin market, and I found that the market was pretty well supplied. That was with reference to the supply for Thanksgiving. Jobbers were pretty conservative with regard to buying and there seemed to be an impression that prices were as high as they were likely to go. Last year, they had views as to the fight among the packers that gave them the impression that prices were likely to be higher. So they loaded up at the then prevailing figures.

"When I was at Kansas City, I saw carloads of these raisins taken out of cold storage, where they had been ever since last January. I found the market the same at St. Louis and at Pittsburg. Large stocks had been carried over and speculated on. The Thanksgiving trade has pretty thoroughly cleared up these stocks, however. They were principally seeded raisins and, as I say, carried over in cold storage. It seemed strange that they had kept as well as they did.

"There are not any very large stocks left in the East, which is the result of the extreme conservatism of the buyers. The shortness of the stocks, therefore, will result in a condition this coming spring that was absent last spring. Then the buyer had loaded up with heavy stocks and had no desire to purchase more. Now they are short of raisins and I expect to see a brisk spring trade."

The War Department has agreed to pay the Friars of Luzon, $7,250,000 for all their land on the island, except one sugar plantation, near Manila.

A Golden Rule of Agriculture:

Be good to your land and your crop will be good. Plenty of

Potash

in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, *free*, by next mail, our money winning books.

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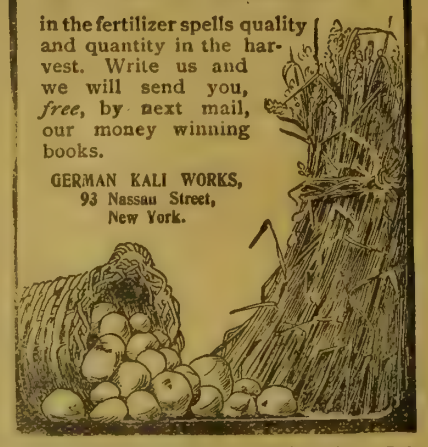

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Professor Newell of the U. S., who is superintending irrigation work in Arizona says:

"The Tonto reservoir will be the largest in the world, and the physical features are favorable for building a dam that will last forever. It will be 247 feet above foundation, with an available storage capacity to depth of 190 feet; the length of the reservoir basin being eighteen miles and 14,000 acres in extent.

Plant the World-Famed Fig of Commerce, the **Lob Ingir Smyrna**

This is the variety recommended by the U. S. Department in Bulletin No. 9, entitled "The Fig, Its History, Culture and Curing." This is the variety that excels all others for drying purposes. Good stocky trees, 25c each, or $15.00 per hundred. Buy direct from us or from our agents and get trees from the original Smyrna trees. History of the fig sent free on application. Sample of the fruit by mail, 50c.

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It is without rival in regard to climate, soil and water supply.

The soil is adapted to berries, alfalfa, vegetables, walnuts, etc.

To illustrate what can be done, we visited the model ten-acre ranch home of Messrs. Burge and Michael near Gardena. They kindly gave us an itemized statement of sales of produce for the year 1903. The walnuts (nearly 4 acres) were sold for $731.79; small fruits, vegetables, hay, chickens, eggs cream, etc,, $818.77, making a total of $1,550 56. Can you ask for a better investment?

For Sale, 10 Acres, $4500

House of 6 rooms, barn, farming tools, hay in barn, 1 horse, chickens etc. One acre in alfalfa, balance in orchard, mostly apricots. $2,000 cash 6%, good time.

5 Acres, $2,000

Three acres young strawberries balance alfalfa and garden. Horse cow, buggy and farming implements

5 Acres, $1,400

Two and one-half acres new straw berries,

20 Acres, $2500

One acre strawberries, 3 acres appl orchard; 7-room house; barn. Eas terms.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset wit bearing fruit trees. Berries, one acr of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, en trance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant Good celery or alfalfa land. A bargain

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house barn, etc. Berries, alfalfa and fruit Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house sheds, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house and barn, pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

W. M. GRAY
Gardena, Cal.

WHAT MATTERS IT?

What matters it though all the world go wrong?
Somewhere the birds are lilting out a song.
What matters it though clouds hang low and dark,
Through swirling waters glides our lonely barque?
What matters it; for somewhere just beyond
A rainbow dips into a crystal pond;
The tinted arch the gate of heaven spans
And love awaits to clasp our groping hands,
To smile into the eyes all dim with tears,
To hold us close through all the coming years.—Edith Hall.

A TOUCH OF POETRY.

It was hot—very hot. The car was close and cindery. An overdressed girl across the aisle was chewing gum, working her jaws to the exasperation of the beholder; a commercial traveler who carried a "line" of perfumery, was testing his samples, and heavy wafts of sickish sweetness floated abroad as he sniffed; a baby was crying; a small child patrolled the aisle, lurching around curves, and occasionally tumbling over ends of projecting dress suit cases; an apoplectic old gentleman, with rolls of pink fat at the back of his neck, drowsed uncomfortably, waking himself from his naps with explosive snorts; a thin, pale woman leaned back, looking faint, with a fan in one hand and a vial of salts in the other. The mercury stood at ninety-five.

"Oh, dear!" moaned one of two women traveling in company; "isn't this dreadful? The heat alone is killing; and then it's all so stuffy and sordid and hurried and hateful! We rush and we suffer, and there isn't even an alleviation.

"It makes me remember my traveling abroad last summer about this time. We didn't hurry. Much of the way we coached, and the temperature was perfect. Everybody was comfortable and polite, and all sorts of pretty, poetic little things kept happening that it is a delight to remember.

"Let—me—see. This is the fifteenth, isn't it? Well, on the fifteenth we were coaching in the lake region, and the dear little rosy-faced English children ran after the coach, and tossed sprigs of red rowan-berries into our laps. Of course, we threw them pennies; but it didn't seem like mere buying and selling—it was much more charming and poetic."

The train slowed up, and the water-lily boy got on the train—a homely, thin-shanked, bare-legged, red-headed little youngster, with an armful of sweet white lilies, cool green pads and trailing red-brown stems. A suggestion of crystal waters, quiet coves and dipping boughs seemed to float in with their fragrance.

The woman bought; the apoplectic old man chocked himself awake, and nearly had a fatal attack in his struggle with his pocketbook. The drummer banished his bottles, and the chewing-gum girl her soiled paper novel, and both bought flowers. The pallid woman, in a burst of extravagance, took a dozen, and buried her face in them. But the tired mother with the baby and the tumbling child could not afford any, although she looked longingly, and the baby clutched for them. The boy noticed, "Want some, kid?" he said, laying a generous bunch in her lap. "Plenty more in the pond, ma'am; and my own kid brother always likes 'em." He tucked yet another in the hand of the bigger tot, who sucked the cool stem in solemn wonder, and then, hastily slipping out of the door, he swung himself off the step as the train started.

"That was better than the rowan-berries," said the traveled woman, softly.—The Youth's Companion.

LESSENING WOMEN'S LABORS.

It is no wonder that housekeeping is now regarded as the most honorable and exalted position woman can occupy, for it requires so many qualifications of head, heart and hands. The duties of the farmer's wife are many and very complicated. The morals, health, business, happiness and success of the family depend, to a great extent, upon her qualifications. The care-worn faces and bended forms we see among them are proof that their work not only needs simplifying but also improving by better methods and more general knowledge and scientific understanding of their work.

Educated women are now paying attention to the details of housekeeping and intelligently investigating its needs. They no longer regard it as work fit only for the coarse and ignorant, but work that is worthy of the time and attention of intelligent hands The farmer's wife would save herself much time, labor and expense and prevent many troubles and failures if she would study the laws of health, hygiene and chemistry of food.

One of the greatest drawbacks to the farmers' wives of the present time is they devote all their time to physical labor in supplying the physical needs of the family; that is, food, raiment and shelter. We rural women should have a higher ideal of our duties and place our lives upon a higher plane, and devote equal efforts and attention to the culture and development of the moral, intellectual and spiritual nature.

The farmer's wife needs to cultivate the social side of her nature. Time should be taken for pleasure, reading, riding, visiting, entertaining and for reflection. All this may appear to make their lives more burdened and complicated, but instead it develops the different parts of their nature and makes them and their houshold more intelligent, happier and useful and more respected. Much of the work can be abbreviated, and oftentimes omitted without any loss of comfort and money. Knitting, unhealthy fancy cooking and tedious fancy work are not necessities and should be omitted where one's time is limited. Clothing can be made plain and look just as well and save much time in sewing and laundrying. Woolen carpets can be dispensed with in dining room and kitchen and oil carpets and linoleums substituted. This will save much work and dust. Patchwork quilts, which require so much time to make, are no longer needed, as heavy colored bed spreads, cotton blankets and light weight comforts are just as good and so much cheaper.

Entertaining would be more pleasureable and at the same time robbed of its terrors to the rural woman if plain simple refreshments were served instead of elaborate feasts. Simplicity has always been the emblem of true culture. Take time for reflection and not allow every moment of it to be spent in perpetual confusion. Thus if the work is simplified all around, there will be time to devote to the culture of the intellectual nature while at the same time the body will be enjoying a much needed rest. Provide books and magazines, for we can no better afford to starve the mind than the body. Housekeeping is too often attempted by those who have given no attention and study to the practice of the art, and, as we have said, it is a complicated occupation, for it includes cooking, sewing, laundrying, social study, accomplished entertaining and congenial companionship.—C. W., in Indiana Farmer.

DIET FOR SICK CHILDREN.

Many times a discerning mother may cure her child of slight illness by giving homemade medicine to them, and by dieting them. Indigestion is perhaps the most common ailment until the children are three years old at least. When an apparently healthy nursing baby throws up its food, it nearly always is a sign that its stomach is overloaded. The mother either should not let it nurse so often, or should not let it nurse so long at a time. Some infants do well by having three-hour intervals between feeding. Others must be fed every two hours. Mothers must study their babies. The theory now is that babies must be trained. So they should, but it must be inherited from their mothers.

When a child has been weaned and is troubled with indigestion, the food must be studied. Sometimes merely diluting the milk and keeping the little ones on toast and milk for a day or two will stop all the trouble. In diluting milk for a child troubled with nausea, one may substitute barley water or oatmeal water for the greater part of the milk. To prepare oatmeal or barley water, take two tablespoonfuls of the cereal to two quarts of water. Let it cook down to one quart of liquid, strain and use three parts of this liquid to one part of milk. As the child's stomach regains its normal conditions, the oatmeal or barley water may be made one part and the milk three parts. Oatmeal water is good where there is constipation, and barley water is excellent where the bowels are too loose.

In cases of severe or acute indigestion, when the child cannot retain anything on its stomach, I have found the following simple remedy most excellent. Cover well with boiling water several slices of dried beef. Let this stand ten minutes. Then give the liquid to the child at half hour intervals, beginning with one teaspoonful at a time and gradually increasing the dose to four or five teaspoonfuls. The salt relieves the nausea, and the nourishment obtained from the beef makes it unnecessary to give any other food. When the vomiting has been checked, the piece of beef is excellent to give the child strength. It also is good for the stomach because it does not irritate it. Take a piece of beefsteak, slash on both sides with a sharp knife, and sear on both sides either on a broiler over a hot fire or in a frying pan. Where a frying pan is used it should be hot enough to smoke before putting the meat into it. Do not use any fat, but rub the pan with a piece of suet to prevent sticking. Turn the beefsteak constantly and leave over the fire just long enough to brown it. Then put through a meat press. If you have no meat press, lay the meat between two plates, put a heavy flat-iron on the top, and let it stand a few minutes. Drain off the juice that collects and give in teaspoon doses the same as dried beef water for a couple of hours, and then give every two or three hours. When the child is well enough to take solid food, it is well to begin with a thin slice of toast moistened with beef juice, diluted milk or broth. See that there is no grease on the broth, however. I have cured some severe cases of indigestion in my own family by using first dried beef water to stop vomiting, then giving the juice from beefsteak to keep up strength and regulating the bowels by barley and oatmeal water.—Nevada Davis Hitchcock in Ohio Farmer.

Madge—He stole a kiss from me.
Mabel—Well, that was only petit larceny.
Maud—It wasn't—it was grand.

"Don't you think that young man is afflicted with a swelled head?"
"No," answered Miss Cayenne; "he's not afflicted with it; he enjoys it."

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Buy good ones.

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RECIPES

Eat Little, but Have That Little Good

APPLES.

Apples are now at their best. Use them freely every day. No pie is more acceptable than a well-made apple pie, but the fritters and puddings, for which directions are given below, are an agreeable variation.

Apple Fritters.—Beat one egg until very light, add one-fourth cup of milk, one tablespoonful of melted butter, one fourth teaspoonful of salt and flour sufficient to make almost a drop batter. Beat it thoroughly and let it stand at least an hour to swell the flour. Beat again just before using. Pare and core three apples, cut in half-inch rings. Sprinkle with sugar and spice. Dip each slice in the batter, taking up only as little as possible, and cook in deep, hot fat. Sprinkle with powdered sugar and serve with roast duckling.

Apple Pudding.—Pare, core and chop fine enough tart apples to make one pint. Mix with them one cup of stale (not dry) soft white bread crumbs. Beat the whites of four eggs until stiff, then beat the yolks until quite thick, add to them one-fourth cup of sugar, which has been creamed with one tablespoonful of butter, add one-half teaspoonful of salt, one-half teaspoonful of allspice. Stir this into the crumbs, then add the whites, and when well mixed pour into small cups, well greased and let them steam one hour. Serve hot with hard sauce.

MOTHER'S SCRAP BOOK.

Sore throats should always be closely watched. Mere tonsilitis in one child can cause diphtheria in another. Allow no exchanges of partly chewed gum! (filthy trick!) and never encourage over familiarity and kissing among ecqualntances of your children.

Wide and various are the treatments for diphtheria and sore throat. The pure bred disease can kill in twenty-four hours. Kerosene is often used mixed with sweet or olive oil and applied, with thorough but gentle rubbing, to skin of neck. Some have even swabbed sore spots on the tonsils with clear kerosene. Sulphur burned on hot coals and the fumes inhaled, and a swab or gargle of sulphur besides, is a very good remedy. After using sulphur always beware of catching cold.

In home treatment with homeopathic remedies named before, I have had great success and quick recovery with Nos. 34 and 1. As it leaves blood much poisoned, an after course of Red Clover Tea is very wise, and remember one needs to be quiet for a long time after having diphtheria. In diet avoid all meat, but for strength afterward nothing excels Bovinine in Grape Juice.

Poultices of pokeroot (the fresh root pounded and mixed with hot flaxseed or cornmeal is best, though the fluid extract can be used), are commended for bad cases of croup of diphtheria sort. To inhale steam from a pitcher of boiling salaratus water is very good when abscess threatens.

A cold compress is the quickest real aid in ordinary croup. It has helped also after failure with hot fomentations, baths, teas, ipecac, etc. A hot foot bath is always good. To use cold compresses have a square of old flannel wet in cold water and lightly wrung. Over this wind a piece of cloth, flannel preferred, round the neck. Renew when warm. Two or three usually end trouble. Some children inherit the predisposition to croup, also to asthma. These, though healthy enough and despite good diet, etc., seem doomed to frequent attacks when damp raw winds prevail, and they should not be out after dark. They seem to outgrow it in time. It is wise to give such a footbath, light supper, and rub well whole neck and chest with warm oil or lard with a few drops of turpentine. If a fresh cold seems likely this will nicely nip it off, especially if a dose of rhubarb be given to move bowels by morning and a parting "good night tea" drunk hot, of sage and peppermint, or of lemon.

Prevention is always safest. Colds are the beginning of too many serious diseases, especially where the bowels are neglected and the diet is heavy.—Victoria Wellman.

THE CHRIST THAT IS TO BE.

"Christmas, with its old yet ever new and marvelous mysteries" has come and gone and found the old old world just as merry, just as full of gladness as when on that glorious, starlit night in Bethlehem, the King of Glory lay on his mothers' knee and the Angels sang that wonderous song, "Peace on Earth, Good Will to Men."

This is a time when the heart becomes tender, and thoughts go out to the poor and the lonely, and the wish is strong as wish can be, that into each life some joy may come. Beautiful is the inspiration which leads us to offerings of love on this day of hallowed memories, and happy are we in the thought that it is "more blessed to give than to receive." The Swedish story written tells us that every Christmas eve, exactly at two o'clock the cattle turn their heads to the east and kneel down to worship the king supposed to be cradled in the manger. Beautiful and right it is that gifts and good wishes should fill the air like snowflakes at Christmastide. And beautiful is the year in its coming and in its going—most beautiful and blessed because it is always the year of our Lord.

On this Christmas time when good cheers abounds, when the home is decked with holly and the yule log burns bright on the hearth, let us turn our thoughts within ourselves and take account of our spiritual condition. The world today demands of every individual more of the spirit of the Christ king. Love for our fellow men; desire to do unto others as we would have others do to us; abounding virtue and benevolence; these are the elements that must work the moral regeneration of society and the millennium when the world shall recognize the Christ that is to be.

A woman who suffers from perspiring palms lines each glove with a piece of very thin oil silk covered with thin muslin. The silk is pasted down on the inside of the glove with just a suspicion of pure gum arabic mucilage applied so dry that it cannot stain through. Oil silk is the material of which the ordinary dress shields are made. She says the presence of the lining is not noticeable in any way when the glove is on the hand, and works marvels in keeping the hand covering intact.

Don't add stale bread and butter sandwiches to the crumb basket. Put them into a toaster still laid together and toast rapidly over a clear red fire on both sides. Serve hot. You will find them delicious, crisp outside, soft, warm and buttered inside. If it is a sandwich which has a chopped meat or nut mixture between, toast in the same fashion, then pour over a hot thin white sauce. This makes a delicious luncheon or supper dish.

In trying to hem liberty silk on the machine, women have great trouble because of its being dragged into the feeder and chewed up. The idea of putting a strip of paper between the cloth plate and the liberty silk and sewing them together remedies the evil, as the paper may easily be torn away.

NEVADA'S GREAT ALUM OUTPUT.

The largest alum deposit in the world is said to be located in Esmeraldo county, Nevada. It is over 100 feet wide and the operators are not more than one-half way through the ledge. The greater part of it is pure crystalized alum.

Worse Still.

Mr. Stubb—Here is another woman who insisted that the word "obey" should be left out of the marriage ceremony.

Mrs. Stubb—Well, I don't think it should be left out.

Mr. Stubb (surprised)—I am glad to hear that.

Mrs. Stubb—No, I don't think it should be left out. I think the man should say it.—Chicago Daily News.

The foreign demand for American wheat is light, because good crops are now raised in other countries. Since April 1st, British India shipped 30,000,000 bushels; Argentina, 60,000,000, and Russia 32,000,000 bushels.

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We show a large and well selected stock of Men's Full Dress and Tuxedo Suits ready to wear. Garments that represent the very highest class of tailoring.
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$30 to $40
TUXEDOS
$25 to $40
MAIL ORDERS CAREFULLY FILLED
SEFL-MEASUREMENT BLANKS FREE
UPON APPLICATION

Mullen & Bluett Clothing Co.
FIRST AND SPRING LOS ANGELES, CAL.

Los Angeles Markets.

Los Angeles, January 7, 1904.

The dry, cold weather has had a marked effect on the vegetable market. Some varieties are exceedingly scarce. Seasonable rains in the northern part of the state keep feed at about the prices quoted last week. The vegetable market there is lower. In this city green peas and lettuce meet with small demand and are lower. Tomatoes are also weak, though good qualities are readily taken.

Yellow sweet potatoes are getting very high; 3c is asked for the best, and fancy white are selling as high as $1.60.

Eggs and butter remain at about former quotations. If the dry weather continues we may expect a slight advance. Dairymen have advanced the price of milk from $2.75 to $3.00 per quart per month.

Butter.

B. of T. Creamery, 2lb roll	70
So. California, dairy do	60 62½
Cooking	23 24
Cold Storage	50 55

Cheese.

California and 3lb hand	16
Cal. Downey or Anchor	16
Coast, full cream	16 17
Swiss	13
Imported	28

Eggs.

Fresh Ranch	32 33
Fresh Eastern	25 30
Store, case count	30 33

Potatoes.

River, per cwt	1.20
Oregon, do	1.35
Local, do	1.00 1.25
Sweet Potatoes	2.00 2.25

Beans and Dried Peas.

Limas	3.50 3.75
White, small	3.40 3.45
Lady Washington	3.25 3.50

NUTS.

Almonds, paper shell	14
Almonds, soft shell	13 13½
Walnuts, soft shell	14 14½
Walnuts, hard shells	13½ 14
Peanuts, eastern	6 7
Peanuts, California	5 6

Vegetables; Mixed.

Onions, yellow, per cwt.	1.75 2.00
Beets, per 100 lbs	.90
Cabbage, per 100 lbs	1.50
Hubbard Squash, per ton	20.00
Carrots, per sack	60
Chiles, string	.75
Cauliflofiwer, doz	.50
Celery, per doz	.40
String Beans	.07
Green Peas	.07
Lettuce, per sack	.25
Tomatoes, 25 lb crate	1.50

Fruits; Fresh.

Strawberries, box, fancy	.10 .15
Pears, Winter Nellis, 40lb bx	1.50
Limes, per 100	.90 1.25
Navel Oranges, per box	.50 2.50
Northern Apples, 40 lbs	1.50
Four tier Belleflower	1.60
Four half-tier Belleflower	1.00
Guavas	04 .05

Fruits; Dried.

Apricots	08 .09
Pears	09 .10
Apples	05½ .06
Prunes	05 .06
Raisins, per box	3.00

Poultry.

Spring Chickens, per lb	17 .20
Hens, No. 1, per lb	14 14½
Ducks, per pound	13 14
Turkeys, per lb.	.20 .22
Turkeys, cold storage	.22 .23

Live Stock.

Hogs per cwt	5.25 5.37½
Prime steers, per cwt.	4.00 4.50
Cows and heifers	3.25 4.25
Calves	4 00 5 00

Hay and Grain.

Wheat Hay	$14.00
Barley Hay	14.00
Alfalfa	$14.00
Corn	1.15 1.20
Barley	1.07½ 1.10
Wheat	1.35 1.45
Oats	1.25 1.35

MILL STUFF.

Quotations f. o. b. cars L. A., are:

Rolled Barley	1.25
Bran	1.25
Feed Corn Meal	1.40
Middlings	1.45
Cracked Corn	1.35 1.40
Oil Cake Meal	1.75 1.80
Chicken Wheat	1.60
Cocoanut meal	1.50

San Francisco Markets.

Dairy.

San Francisco, January 7, 1904.

BUTTER—Per lb.

Creamery, extras	26
Creamery, good to fancy	23 @25
Dairy, extra	22 @23
Dairy, choice	19 @21
Store	16 @17

Eggs and Poultry.

The demand for Eggs lacks bouyancy and as supplies were generally liberal, the market leaned toward easiness.

EGGS—Per doz:

Ranch, selected large	35
Ranch, good to choice	32½@34
Store	27 @30
California Storage	25 @27½
Eastern	27½

The Poultry market has been firm the entire week, with prices tending slightly upward.

POULTRY—Old Roosters, per doz., $5.00@5.50; young Roosters, $5.50@6.50; Fryers, $4@4.50; Broilers, large, $4@4.50; small, $3@3.50; Hens, small, $4.50@5.50; large, $6@6.50; Ducks, per doz., old, 6.00@7.00; young, $6.50@7.50; Live Turkeys, per lb., 18@20c; Dressed Turkeys, per lb., nominal; Geese, per pair, $2.00@2.25; Goslings, $2@2.25; Pigeons, per doz., old, $1@1.25; Squabs, $2@2.25.

Fruits and Vegetables.

DECIDUOUS FRUITS—Apples, per box, common to choice, 40@85c; fancy, $1@1.40; Spitzenbergs, $1.40@1.75; Lady Apples, $1@$1.50.

Quinces—Per box, 25@50c.

Table Grapes—Per box or crate, nominal.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $2.00@2.50; choice, $1.25@1.75; Standard, 85c@1.25; Seedlings, 75c@$1; Lemons, $1@2; Extra, $2.75; Grape Fruit, $1.00@2.00; Tangerines, 75c@$1.25; Japanese Mandarins, $1@1.50; Limes, $4@4.50.

Operations in the potato market only fairly active.

POTATOES—Per ctl: River Burbanks, 70c@85; Early Rose, nominal; River Reds, 50@65c; Salinas Burbanks, $1.25@1.45; Oregon Burbanks, 90c@$1.10; Sweet Potatoes, $1.50@$1.75.

VEGETABLES—Tomatoes, per box, Bay, nominal; do, southern, per crate, $1.00@1.25; Green Peppers, per lb., 6@7c; Dried Peppers, Stockton, 5@8c; Wax, 6@10c; String Beans, per lb., 7@10c; Wax, 6@10c; Green Peas, per lb., 2@5c; Egg Plant, per lb., 10@12c; Summer Squash, per box, $1@1.25; Cucumbers, hot house, per doz., $1.50; Mushrooms, per lb., 12½@25c; Marrowfat and Hubbard Squash, jobbing at ½@¾c per lb.

Dried Fruits, Nuts, Etc.

DRIED FRUITS.—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 3½@6c; Sun Dried, 3¼@4c.

Apricots—Royal, fancy, 9¼@10c; choice, 8½@8¾c; Moorparks, choice, 10@12c.

Peaches—Choice, 5@6c; fancy, 6¼@7c; peeled, in boxes, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9½@10c.

Plums—Pitted, 6@9c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2½@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Red, 4@5c.

Figs—White, 4@5c; Black, 4@4½c.

NUTS—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Pecans, 11@13c; Pinenuts, nominal; Peanuts, Eastern, 6@6½; do, California, nominal; Brazil, 11@12c; Filberts, 10@11c; California Walnuts, soft shells, No. 1, 13@14; do, No. 2, 11@12c; hard shells, No. 1, 12@13c; do, No. 2, 10@11c; Hickory, 8@10c; Chestnuts, Italian, 9@10c; Coacoanuts, $4.50 $5.00 per hundred.

HONEY—New comb, per lb., White, 12@14c; Amber, 10@12c.

Beans.

DRIED PEAS—Prices, per ctl.: Green, $2.50; Niles, $2.75.

BEANS—Price per ctl.: Large Whites, $2.40@2.65; small do, $2.90@3.10; Pea, $3@3.10; Lima, $3.10@3.15; Red, $3@3.15; Pink, $2.60@2.75; Bayo, $2.25@2.45; Blackeyes, 2@2.15; Red Kidneys, $4.25@4.50.

Live Stock.

CATTLE—No. 1 Native Steers, 8½@8¾c; second quality, 8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½c; second quality, 5½@6c; thin Cows and Heifers, 3½@5c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 4¾@5½c, gross weight; heavy, 4¼@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 4@4½c per lb., gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4¾@5¼c per lb., live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs. and over, 5¼@5¾c; weighing under 130 lbs 5@5¼c; weighing 260 to 350 lbs, 4¾@5c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Prices on Hay, per ton: Wheat, 15@17; Wheat and Oat, 15@16.55; Oat, 13@$15.50; Barley, $15@16.55; Clover, $13@14.50; Alfalfa, 12@13.55; Stock, $11@12.

FEED CORN MEAL—Choice grades, per ton, $28.50@29.

MIDDLINGS—Per ton, $26.50@28.

BRAN—Per ton, $21@22.

OILCAKE MEAL—In lots of 20 tons, $27 per ton; 10 tons, $27.50; 5 tons, $28; less quantity, $28.50. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $24@25.

COCOANUT CAKE—In lots of 10 tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.35@$1.37½; white milling, good to choice, $1.42½@1.52½.

BARLEY—Choice No. 1 feed, $1.11¼@$1.15; off grades, $107½@108¾; brewing, No. 1, $1.17½@$1.22¼; Chevalier, $1.30@1.45.

CRACKED CORN—Choice quality, per ton, $28.55@29.50.

OATS—Good to choice white, $1.22@1.35.

Hops.

The price for new crop is 21@25c per lb., according to quality.

WOOL.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, Jan. 6.—War news ruled the wheat market today. Reawakened fear of hostilities in the Far East caused an excited opening, and prices were much higher. Shorts were extremely anxious to cover, and there was also a good demand from commission houses. No one seemed willing to sell, while buying orders appeared to come from all sides. The immediate cause of the urgent demand was a decline in the price of English consols, indicating that the war situation was regarded as most critical. Cables also were higher. Receipts were light, notwithstanding the fact that weather conditions were favorable for the free movement of crops. On the profit-taking, the market settled back.

Cash quotations were as follows: Flour was strong; No. 3 spring wheat, 76@85; No. 2 red, 87½@88½; No. 2 corn, 44; No. 2 yellow, 45½; No. 2 oats, 36⅝@36¾; No. 3 white, 36½@28½; No. 3 rye, 53; good feeding barley, 36@37; fair to choice malting, 43@58; No. 1 flax seed, 98½; No. 1 Northwestern, 1.05; prime timothy seed, 2.90; mess pork, per bbl., 15.50@13.62½; lard, per 100 lbs., 6.80@6.85; short ribs, sides (loose), 6.37½@6.62½; short clear sides (boxed), 6.62½@6.75; clover, contract grade, 11.25.

Chicago Live Stock.

CHICAGO, Jan. 6.—Cattle, receipts, 23,000; good to prime steers, 5.10@5.15; poor to medium, 3.75@4.90; stockers and feeders, 2.50@4.25; cows, 2.00@4.00; heifers, 2.00@4.85; canners, 2.00@2.40; bulls, 2.50@4.50; calves, 3.00@3.25. Hogs, receipts today 45,000; tomorrow 40,000; 10c lower; mixed and butchers, 4.60@4.90; good to choice heavy, 4.50@5.00; rough heavy, 4.50@4.70; light, 4.30@4.65; bulk of sales, 4.60@4.80. Sheep, receipts 20,000; sheep and lambs slow; good to choice wethers 4.00@4.60; fair to choice mixed 3.25@4.00; western sheep, 3.65@4.50; native lambs, 4.00@6.25; western lambs, 4.60@6.25.

DAIRY MARKET.

On the Produce Exchange today the butter market was easier; creamery, 16@23; dairy 16@21; eggs, firm, 25@28; cheese, steady, 10@10½.

California Dried Fruits.

NEW YORK, Jan. 6.—Evaporated apples are in light demand, prices are steadily held; common are quoted at 4@5; prime 5⅛@5½; choice 5½@6¼; fancy, 6½@7. Prunes are quiet and prices ruled steady at from 3⅝@6½, according to grade. Apricots attract only light demand, but are firmly held with choice quoted at 9¼@9½; extra choice 9¾@10¼, and fancy held at 11@15c. Peaches are firm; choice are held at 7¼@7¾; extra choice, 7¾@8¼; and fancy, 10¼c.

CITRUS MARKETS

THE ORANGE MARKET.

The market during the past week has been very seriously handicapped by the extremely cold weather prevailing in nearly all parts of the country. Arrivals, however, have not been very heavy, and it was only necessary to move fruit in limited quantities at the other end of the line. Heavy shipments are about due in the different markets and conditions are unfavorable. Auction markets have been in bad shape and sold but limited number of cars during this week on acount of the weather conditions. Much of that which is arriving is old stock and bringing low prices. Strictly good stock bringing quite satisfactory prices. The western markets are doing fairly well under the circumstances.

THE LEMON MARKET.

The lemon market continues in the same unsatisfactory condition, with practically no demand, a condition, however, that could hardly be expected to improve with zero weather.

AUCTIONS.

NEW YORK, December 28, 1903.
C. C. U. Exeter, Antelope Navels, $3.35. Mariposa Navels, $2.75.
C. C. U. Lindsay Lily Navels, $2.10.
C. C. U. Sanger Hollywreath Navels, $1.95, Mistletoe, $1.90.
C. C. U. Exeter Mariposa Navels, $3.25, Mistletoe, $2.85.
C. C. U. Exeter Mariposa Navels, $2.35.
C. C. U. Sanger Mistletoe, $2.40. Hollywreath $3.25, Hollywreath Grape Fruit, $2.65.
T. C. Zante, Forgetmenot Lemons, $1.50, badly chilled.
C. C. U. Hursts Spur Parson Brown, $1.70, pale and greenish.
C. K. Upland Coyote Navels, $2.25, Owl Navels, $2.30.
C. C. U. Porterville Mariposa Navels, $2.45.

PHILADELPHIA, December 28, 1903.
C. C. U. Exeter Lily Navels, $1.90, Monarch, $2.20.
T. C. Sanger finest of all, $1.70, Prosperity $2.00, portion green and spotted.
C. C. U. Oroville Mistletoe Navels, $1.45, Yule Tide, $1.60.
T. C. Exeter, Perfection Navels, $1.40, Canon, $1.30.

BOSTON, December 28, 1903.
C. C. U. Exeter Lily Navels, $2.25.
C. C. U. Rialto Camelia, $1.85, Blossom Lemons, $1.60.
C. C. U. Oroville Yule Tide Navels, $2.55.
T. C. Lindsay State Navels, $2.50, Capitol Navels, $2.25.
C. C. U. Redlands Camelia Navels, $2.25, Camelia Lemons, $2.10.
C. C. U. Porterville Mariposa Navels, $2.50.
T. C. Porterville Fancy Navels, $2.05, Choice Navels, $1.75. Oakleaf Lemons, $2.05.
C. C. U. Lindsay Hollywreath Navels, $2.30, Lily wreath, $2.10, Tangerines, 1-2s, $1.15.

PITTSBURG, December 28, 1903.
T. C. Porterville Forgetmenot Navels, $2.35.
T. C. Porterville Forgetmenot Navels, $2.10, Oakleaf, $1.80.
C. C. U. Exeter Mariposa Navels, $2.30, Mistletoe, $2.25.
C. C. U. Exeter Nonpareil Navels, $2.50, Mistletoe, $2.15.
A. C. C. G. Glendora Stag Navels, $3.35 to $2.30.

BOSTON, January 1, 1904.
C. C. U. Lindsay Lily Navels, $2.20.
C. C. U. Exeter Mariposa Navels, $3.05, Mistletoe, $2.35.
C. C. U. Porterville Lily Navels, $1.65, Monarch Seedlings, $1.45.
C. C. U. Lindsay Lily Navels, $2.85 to $2.05.
C. C. U. Exeter Protection Navels, $1.85, Buckeye Lemons, $1.55.

PITTSBURG, January 4, 1904.
C. C. U. Oroville Yule Tide Navels, $2.10.
T. C. Porterville Forgetmenot Navels, $2.05, Oakleaf, $1.60, Oakleaf Lemons $1.50.
C. C. U. Lindsay Hollywreath Navels, $2.50, Lily Navels, $2.05, Mistletoe, $1.50.
C. C. U. Redlands Blossom Navels, $2.55 to $2.35.

CLEVELAND, January 4, 1904.
C. C. U. Lindsay Lily Navels, $2.50, Mistletoe, $2.20.
C. C. U. Redlands Camelia Navels, $2.65.
Arlington Heights Fruit Company Squirrel Lemons, $2.25, Palm Tree, $1.60.
T. C. Lindsay Mt. Whitney Navels, $2.20.

NEW YORK, January 4, 1904.
C. C. U. Riverside Gypsy Queen Navels, $2.60.
C. C. U. Lindsay Mt. Whitney Navels, $2.00.
Mt. Hamilton Navels, $1.45.
Arlington Heights Silver Lemon, $2.35.
T. C. Porterville Oakleaf Navels, $1.60.
C. C. U. Riverside Our Favorite Navels, $2.10, Daisy Navels, $1.95.
C. C. U. Riverside Gypsy Queen Navels, $2.60, Carnation Navels, $2.30.
C. C. U. Lindsay Mistletoe Navels, $2.30, Mistletoe Homasassas, $2.15.

BOSTON, January 4, 1904.
C. C. U. Exeter Mariposa Navels, $2.05.
C. C. U. Sanger Mistletoe Navels, $2.55, Hollywreath Budded, $2.00.
T. C. Porterville, Oakleaf Navels, $1.80.
C .C. U. Lindsay, Lily Navels, $1.55.

Total to date this season, 2223 cars, of which 324 are lemons. Total to same date last season 2261, of which 387 were lemons.

Under date of January 5, local forecaster Franklin writes:

There was practically no change in the weather conditions during the past week from week previous; warm days and cool nights, with frost, continue. The frost was not severe and no injury resulted to citrus fruits Oranges are well colored and moving freely to market.

The lack of rain is apparant in failing pastures and irrigation to the limit of the supply, which is ample and up to the usual quantity for the time of the year.

The weekly reports continue to be few in number, owing to the drought, and will be until the rains come, as farm work is at a standstill and there is but little for farmers and ranchmen to say.

J. C. Gookins, who is a field agent for the A. R. Coulson Co., says that he can always tell the sections in which the Cultivator circulates the heaviest. The knowledge of the Coulson foods is largely extended through the Cultivator and this is most apparent when a household is visited in which the Cultivator is. We believe this is true of nearly all the advertisers that are able to trace results in advertising. The Coulson Company are now shipping about a car of poultry foods per day.

I WILL GIVE $1000

IF I FAIL TO CURE ANY CANCER OR TUMOR

I treat before it Poisons Deep Glands or Attaches to Bone.

NO KNIFE OR PAIN, NO PAY UNTIL CURED.

NO X-RAY OR OTHER SWINDLE.

A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. **3000 CANCERS** cured on people you can see and talk with. **ANY TUMOR, LUMP OR SORE** on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.

ANY LUMP IN WOMAN'S BREAST IS CANCER

It does not pain until almost past cure, and if neglected it **ALWAYS** poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. **INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 120-PAGE BOOK,** sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.

DR. & MRS. DR. CHAMLEY & CO., ["Strictly Reliable."]

515½ S. MAIN STREET, LOS ANGELES, CAL.

PLEASE SEND THIS TO SOME ONE WITH CANCER.

A Place Well Won Beside the Sun

THE

ELGIN

WATCH

to-day regulates the world's time.

An illustrated history of the watch sent free upon request to

Elgin National Watch Co.,
Elgin, Ill.

THE RUEHL-WHEELER NURSERY

GROWERS AND DEALERS IN

FRUIT, ORNAMENTAL AND CITRUS TREES

ROSES, EVERGREEN AND FLOWERING PLANTS

Salesyard: 121 West San Fernando St.
Phone: 1391 White

SAN JOSE, CAL.

NURSERY: NORTH McLAUGHLIN AND ALUM ROCK AVE., EAST SAN JOSE

Fine Orange Trees

NAVELS

VALENCIAS

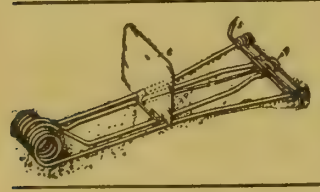
Strong, thrifty growing trees, absolutely true to name.

Covina, Cal., December 29, '03.

To Whom it May Concern: I wish to say that I have planted trees taken from the Covina Nurseries of H. D. Blanchard and can speak of them only in the highest terms. They are true to name, thrifty, strong growing stock. H. M. HOUSER.

H. D. BLANCHARD

COVINA NURSERIES *COVINA, CAL.*



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Z. A. MACABEE, LOS GATOS, CAL.

Redlands Nurseries

A complete line of **DECIDUOUS TREES**, consisting of Apricots—Royal, Blenheim, Newcastle's Early and Moorpark—and a full assortment of Peach, Plum, Prune, Pear, Nectarine, etc. In short, everything in the Deciduous line. We can offer the best **CITRUS TREES** to the planter that are on the market, free from scale and true to name, as we grow all our trees ourselves and you are not paying a middleman. When buying, buy of us and get good trees that will grow. Our stock of Deciduous Trees are as good as any and better than many and cheaper than all others. Write us for prices.

Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.

Established 1865. The Oldest in the State.

PAJARO VALLEY NURSERY

Located in the Fertile Pajaro Valley. Large stock of Apple, Pear, Apricot, Peach, Plum, Prune, Cherry and Nectarine Trees. Apple Trees on resistant roots. Nut Trees, Shade Trees, Palms, Small Fruits, Roses, etc. Introducer of the Loganberry and Mammoth Blackberry. Originator and introducer of the Linda Strawberry. If you want unirriga ed Californ a grown trees—best for our dry climate—we have them.

Send for Catalogue and Price List

JAMES WATERS, Prop. **Watsonville, Cal.**

"ITS PENNY WISE"

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe ave., Los Angeles.

DANDY Bean Picker.

Hand-picked beans bring double price. Make $2 to $3 a day picking them over at home in winter months with the **Dandy Picker.** A special tool for a special purpose—best of kind in the world. Description free.

LUTHER BROS. CO.,
11 Mill St. N. Milwaukee, Wis.

A. B. C. INSECTS.

(Continued from page 29)

Strawberry Grubs.—F. H. Hall, Escondido, sends strawberry plants, attacked by grubs. He also sends the grubs. They are doing serious damage in the strawberry plantations. He says he has not applied manure and yet the grubs are doing him serious harm. The insect proves to be the common white grub of our California lawns and strawberry beds. This grub feeds for two or three years and there are two sizes among those sent by Mr. Hall. It is true that treating strawberries with stable manure often brings these grubs, as they can feed on either stable fertilizer or roots of plants. Yet the eggs are often laid by the beetle among the plants or in the grass of the lawn, in which case of course, they will appear without the manure. It is hard to give a remedy except to move the bed, though I presume the bi-sulphide of carbon might be used so carefully as to kill the grubs and not greatly injure the plants. A careful test would prove whether this be true or not. Were I a sufferer, I should not hesitate to make the experiment and should expect to succeed. I shall hope to give an illustrated article on this insect for the Cultivator soon.

* * *

Gophered Trees.—F. R. Miner, Tropico, asks when to cut back gophered trees. The object of cutting back is to preserve a balance between roots and branches. As soon, then, as it is discovered that the roots are injured, so soon should the branches be cut back. Mr. M. also wishes to know if it is well to prop up late Valencias in localities where there is little wind. Certainly, if there is danger of the trees breaking down, else, no. He also wishes to know if the tri-foliate stock has been proved superior for this region. I think not. Some claim excellence for it. It should not be extensively planted without further trial.

CRUDE OIL FOR PEACH BORERS.

Subscriber, San Jose, states that peach trees are being painted with crude oil in his neighborhood from the earth line down as far as the insect works. He says this seems to be effective but that the peach growers fear injury to the trees. He asks advice in the matter. I used in Michigan crude oil and crude carbolic acid in similar fashion years ago and experienced no harm and more or less of success. I should expect no more harm from the use of our crude oil than from that of the East, yet in all such matters, it is best to keep a sharp eye out for injury. In our use of distillate spray, the spray always runs down the trunks of the trees, and seems to do no harm, though I have heard complaint of injury where a large over charge was used. If I were T. H. D., I should have little fear in such treatment of my trees. Let me say, however, that in quite an extended line of experiments in Michigan, I found nothing equal to digging out the peach borers doing the work both in autumn and early spring that any borers left in the first search might not escape destruction. The gum at place of attack quickly reveals the presence of the borers.

The same writer asks if similar painting will injure prune, cherry, peach, apricot, almond, and plum trees, except where it is used above the ground line. Here again I should have little fear of injury. It certainly would not if diluted. I do not think it would increase the danger from sun scald. Neither do I think it would injure to paint below the ground. Nor do I think injury would result if the main roots were left exposed for a few days. Of course we must remember that the normal condition of roots is to be covered up. The writer says that an answer to these questions will please several hundred subscribers.

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Index to Volume XX

OF THE

California Cultivator

From January to July, 1903

Page.

A

Abundant Humus 4
Alfalfa As Medicine 265
Alfalfa, Cutting 265
Almonds, Soil and Climate for....200
Almond, The Jordan 358
Ants 180-260
Anaheim Disease 231
*Apples, Where Grown 33-35
Apple Growers Association 130
Apple Growers, Co-operate 131
Apple, For Summer 151
Apple, Trees, Disease 229-342
Apple Culture, Los Angeles Co., 256, 263 264
Apple Borers 277
Apricot, Sour, Sap of....277
Apricot Scale 323-359
Apricot Tree, Sick 252
Apricot, Spring Pruning of 119
Apricot, Profitable 3
Asparagus, Once More 5
Aphis, Wooly 357

B

Bats, Trouble From 37
Banana, The 252
Beans, Soy 70
Beerseem 26
Berries, Bush, ...86-384-389
*Berry, Culture 88
Berries,, Diseased Strawberries 323
Berries, Strawberry Fertilizing 358
Berries, Raspberry, Anthracreose 374
Berries, Fungus, Diseases of 391
Beet Seed Raising 374
Beet Sugar Saved 179
Beets, Thinning 89
*Bee Keeping in California 163-164-165
Bees 180-356
Beetles, Tenerbrinoid 291
Beetles, Flea 356
Beetles, Plant Lice 357
Bugs, Squash 73
Bulbs, Summer Flowering Of....152
Butter, Oleomargarine 242
Butterflies, Swarm Of....228
Burbank, Luther 352

C

California University—Work Entomological Department 24
Cultivation 40
Cuttings, Propagation 41
Cows, Texas Fever 228
Cows, Herefords 241
Cows, Alfalfa for 170
Cows, Balanced Ration for 170
Cow, Type of Dairy 186
Cow, Closed Milk Duct 186
Cow, Selecting, Calf 201
*Cattle, Shorthorns 248
*Cattle, Holstein-Friesians 248
*Cattle, Jersey Breeders' Association....249
Cattle, Guernsey 249
Cattle, Texas Fever Inoculation 259
*Cattle, Beef for California 97-106
Cattle, Black Leg 279
Cattle, To Prevent Bloating 279
Cattle, Feeding Cow Pea Hay 279
Cattle, Bloat 186
Cattle Industry, Growth of 242
Caterpillar Pest 322
Cattle, Paresis, Parturient 329
Cattle, Kind of Bull to Buy 353
Cattle, Balanced Dairy Rations 360
Cattle, Lice on 393
Cattle, Direction of Dairy 42
Cattle, Feeding 122
Cow, How Long Go Dry 58
Cow, Alfalfa, Too Much 58
Cow, Dairy on High Priced Lands 74
Cow, Make the Best 10
Cow, Lump Jaw 90
Cow, Arousing Sympathy 105
Cow, Picking of 120
Cow, Cure for Milk Fever....122
Cow, The Ayrshire 122
Cows, Pea and Bean Fodder 151
Cows, Breeding Better 154
Cows, Breeds, Crossing 154
Cows, Keep Only Good 169
Cabbage, Lice 29-73
Calendar, March 134
Calendar, May 252
Carnations 7
Carnation, Soil 168
Calves, Dehorning 138
Calves, Milk Substitute 10
Calves, Infections, Diarrhoea 107-202
*Calf, Raising 177-186
Cherry, Jerusalem 152
Chemistry, A. B. C. of....212-213-228-244 274, 291, 355
Corn, Egyptian Seeding 150
Convention State Fruit Growers....248-290-292-305
Convention, Apple Growers 51
Cyclamen, Plant 153
Citrus Stock 5

D

Deep Culture 4
Deep Irrigation 4
Draught Protection 321

E

Edible Nuts 9
Eggs, The Sex of 12
Eggs, Barrels for 59
Eggs, Feeding for 90-167
Eggs, Winter 108
Eggs, On Breaking 155

F

Family Vineyard 6
*Farming in Fresno County 1
Farmers' Institutes 210-229-259-274-278-355
Farmers' Institute, Need of State Aid ..19
Fattening Hogs 11
Feeding, Cow Pea 26
Fertilization, A. B. C. 52-53-68-69-100-101 164-116-132-133-136-148-149-150-152
Fertilizers, Commercial 167
Fertilizer, Liquid 163
Fertilizers, ...184 269-216-356-[illegible]58
Fertilizer, Stable 156 299
Fertilizer, New Law 260-401
Fertilizers, Need of State Control 19
Fertilizer, Lemon Culls 37
Fertilization 67-120-134

*Illustrated

Page.

Fertility and Stock Raising 279
Fig, Diseased 103
*Fig, Smyrna 225-272-296
Flowers, Petunias, Improved 324
Flowers, Late Planting 294
Flowers, Azaleas....275
Flowers, Hyacinths 275
*Floriculture in California 81
Fly, The White 34
Fowls, Individuality of 92
Fruit, Green 40
Fruit Season, Review of 34
Fruit, Spotting 197
Fruit, Crystalizing 200
Fruits, Experiments in Preserving....246
*Fruit Flies and Their Exclusion 288, 296
Fruit Pests—Diseases of Deciduous Trees.295
Fruits, Deciduous, in the South 309
Fruits, Irrigation of Deciduous 389
Fruits, Methods of Curing Deciduous.400, 404
Fumigation 67, 388

G

Grape Question 54
Grapes, Muscat on Resistant Roots....102
Grapes, Trimming Arbor 118
*Grapes, for Pacific Coast 129, 135
Grape Pruning 143
Grapes, Planting, Cutting 181
Grape Culture 183
Grapes, Table 277
Grape, Growing in South Africa 308
Grapes, Best Root Petite Bouschet....373
Grape, Best to Graft on, Le Noir 373
Garden 134
Gardening, June Flower 341
Ginseng Culture 289
Grain, Wheat, Corn 257
Goat, Angora 138
Guava, Transplanting 102

H

Horses—Scratches 218
Horses—Skin Diseases of 235
Horses, Does Raising Pay 281
Horses, Raise Good....328
Horses, Abscess of Parotid Gland 345
Horses—Eczema 345
Horse, Treatment of 10
Horse, The Docked Discarded 27
Horse, Blind Staggers in 58
Horse, in Winter 89
Horse, Parasitic Growth 186
Horse, Chronic Diarrhoea 102
Horses, Paralysis of Bladder 74
Hogs, Fattening 11
Hogs, Skim Milk for 74
Hogs, a New Grain for 106
Hogs, Feeding Decayed Slops to 122
Hogs, Pumpkins for 153
Hogs, Producing Brood Sows 154
Hogs, Feeding, Breeding 154
Hogs, Lice on 185, 408
Hogs, in United States 211
Hogs, Berkshires and Poland China 241
Hogs, Soy Beans for 296
Hogs, Partial Paralysis 377
Hogs, Sore Throat 377
Honey and Co-operation 35

I

Irrigation 40, 275
Insects, Passion Vine Butterfly....85
Irrigation—Sub 118
Irrigation, Increasing 171, 337
Irrigation, Best Orchard Form 230
Irrigation, Measurement 336
Irrigation, Systems of 337
Irrigation, National Association 337
Irrigation Propositions 337
Irrigation, Pointers on 339
Irrigation, Garden, ...341
Irrigation, Best Fodder Plant 342
Irrigation, Beef Prices 351
Insect—A Great Friend 355
Insect Fleas....357
*Insects, Beneficial....371
Insects, Scale 36
Insects—A B C of 403

L

Law, Horticultural 215
Legume 169
Legislation Needed 17
Legislature, Work to do 18
Legislative Co-operation 114
Legislation for Farmer....178
Lemons, Curing and Marketing of 310, 314
Lemon Peel Scale 180
Lemons, Diseased 85
*Lemons, New Method of Curing 65
Lentils 230
Lice, Plant 84
Louse, Work California 153

M

Mangoes and Rabbits 166
Manuring, Green 37, 105, 164
Manure, From Poultry Yard 166, 167
Manure, Care of 281
Manure, Lime and Ashes in 406
Melon, Aphids 387
*Melon, New Stock 275
Meat, Price too High 170
Milk, Have Pure 138
Milk, Exercise versus 180
Milk, Bloody 186
Milk, Cream Ripening 279
Milk, Remove From Stable 137
Milk, Its Use As a Food 312
Milk Fever, Treatment of 375
Mite, The Silver 387
Moth, Codling 115, 145, 215, 307, 375
Moth, Tiger 291

O

Oak, Cork 231
Orchard, Parasitic and Predaceous....25
Orchard Work 40
Orchard, Home 102
Orchard, Dry Spraying of 391
Onion Rot 54
Oranges, Budded 8, 6
Orange, Blood 7
Oranges, Grapes or 36
*Oranges, Is There Money in 56, 57
Orange, Budded Varieties 72
Oranges, Disease 85
Oranges, When to Fertilize for 87
Oranges, Valencia Late 136
Orange, Tangerine 198
Orange, Trifoliata 198
*Orange, Different Varieties of 304, 311

P

Palm, the Guadaloupe 294
Parcels by Post 321
Peach, Thinning and Spring Pruning 375, 384
Peach Yellow 214
Peach and Nectarine 215
Peach Culture, New Kind of 245
Peach Stock, Prunes on Old 277
Peach, Curl Leaf of 278
Peach Tree Pruning 21
Pear, Henry IV 12
Pears, on Dwarf Stock 54
Pear Blight 261
Pepino 83

Page.

Plants, Pot Bound 41
Plants, Bedding 41
Plants, Seeds of Nature 324
Plant, About Pie 152
Pine-apples 168
Pine, Canary Island 324
Potato Growing 120
Potato Blight 306
Potatoes, Scabby 37, 73
Potatoes and Onions 55
Potatoes, Sprouting 373
Potato Diseases 406
Pollenation 20
Poultry, Capons 394
Poultry, Rations 188
Poultry, White Leghorn City 193
Poultry, Trap Nests 235
Poultry, Care of Chicks 297
Poultry on City Lot 12
Poultry, Black Minorcas....49
Poultry Pays Well 59
Poultry, How Keep Healthy 59
Poultry, Roup 59
Poultry, Profits 60
Poultry Show, San Diego 75
Pullets, Green Cut Bone 91

R

Rhubarb 252
Roses, in Trouble 9
Roses, Pruning 117
Roses, From Seed 152
Rose Scale 180
Rose, Diseased Bushes 180, 292
Roads 385
Root Knot 261

S

*Scale, Greedy 387
Scale, Black Disappearing....231
Shade Trees for the Desert 9
Sheep in California 257
Sheep, Strict Law 297
*Spraying, Pioneer in 67
Spray, Distillate 196, 274, 323
Spray, Trees 200
Spider Red, Spraying 37, 247, 272, 278
Soil, Moisture 36
Soil, Thermal 37
Soils, Alkaline 231
Stock, Growth of Industry 90
Squirrels 37, 199

T

Taro 73
Tomatoes, Small 37
Tomato Worm 37
Tomato Tree 41
Tree, the Most Useful 82
Trees, Street 86
Tree, Tar and Resin for Wounds 121
Tree Planting, Roadside 181
Trees—Eucalyptus, Prune on Almond....182
Trees, Eucalyptus 230
Trees, Eucalypti 245
Trees, Eucalpts, Valuable Work on 291
Trees, Douglas Spruce 294
Trees, Planting of Citrus 304, 312
Trees, Treatment of Stiff Soils....356
Trees, Planting of 34, 117
Trees, Sick Orchard 37
Thrips 229

V

Veterinary, 43, 90, 138, 164, 186, 202, 218, 235, 265, 281, 345, 377, 409
Village Improvement Societies 83
Vineyard, Planting 21
Vine for Shade 55
Vineyard, A Window Side 82
Vine, Maderia 184
Vines, Grape Sulphuring 200, 342
Vines, Diseased Dewberries 292
*Vines, Grape, Summer Grafting—New Methods....320, 327, 328
Vine, Grape, Best Resistant 325
Vines, Grape, Pruning Green 404

W

Wine Grapes, San Joaquin Valley 5
Walnut, Increased Tariff 35
Walnut, Seedling 39
Walnut, Exchange Marketing of 65, 71
Walnut, Fertilizing 118
Walnut Trees Sunburnt 181
Walnut Blight 182, 183
Walnut, Phytoptes 291
Walnuts and Dried Fruit, Marketing of..292
Walnut, Scale of the 307
Wasps 180
Water, Duty of 343
Water Supply of Southern California....369
Weevil, Pea and Bean 36
Women as Farmers 66
Woman's Work in Poultry Yard, 107, 123, 139, 155, 171, 187, 203, 219, 251, 297, 314, 330, 362, 364
Work March 168
Worms, Corn 118
Worms, Cut Worms, Climbing, 291, 307, 323 356
Worm, The Army 340

Index to Volume XXI

From July to January, 1904

A

Alfalfa, Hogs on 129
Alfalfa, About 511
Almonds, Killing Worms in 271
Almonds, Do Pay 415
Almond Trees, Care of ....[illegible]61
Anaheim Disease ....[illegible]35
Ants and Cut Worm Work 4
Apple Trees, Thinning Branches 6
Apples and Pears for Home Use 198
Apple Industry 210
Apple Orchard 435, 449

B

Berries, Raspberry Blight 4
Berries, Raspberry Bushes, Summer Pruning 7
Berries, Treatment of Raspberry Bushes..54
Berries, Strawberries the Best 126
Berries, Strawberry Plants 199
Berry, Strawberry Grubs in Garden 271
Berry Culture 295
Beet Sugar Pulp 40
Beetle, Fuller's Rose 247

C

Calendar, July 23
Calendar, August 71
Calendar, January 521
California Big Grain Fields 33
California Horticulturally, 160, 181, 197, 213, 229, 270, 318, 366, 414, 462, 510
Coachella Valley 291
Cattle, Cement Floors for 10

Page.

Cattle, Feeding Stuff, Comments on 49
Cattle, Influence of Great Bulls 56, 96
Cattle, Shorthorns 167
Cattle, The Bull, How to Care for 276
Caterpillar, Tomato 92
Caterpillar, Cabbage 108
Caterpillar, Orange 512
Citrus Groves, Shall We Extend Our....78
Citrus Interests, California 339
Convention, State Fruit Growers 459, 484

D

Dairying—
Qualifications of Cow 65
Winkeetta's Princess 129
Dairying in California 216
Point of Success 232
Law Relative to Butter and Cheese....275
Exercise for Milch Cow 299
Does Fancy Butter Pay 300
Dairy Farming in California 315, 324
Cow, Why Keep....348
Elements of Successful 468
Improving Products 516

F

Fertilizing, Intelligent 24, 25
Fertilizing, Orchard 89, 93, 94
Fertilizers, Authority on 230
Fair, State 183
Farmers' Institutes, 66, 73, 74, 75, 76, 122, 129, 296, 474
Farm Organizations 105
Fumigation 78
Frost, Protection From 352
Fruits as Food and Medicine 13
Fruit, Future for Industry 18
Fruits, Dried, Improved Methods of Handling 49
Fruits, Methods of Handling 55
Fruit Growers, Some Hints for 125
Fruit Spotted 244
Fruit, New Bleach for 293
Fruit, Deciduous Shipment for 1903 483
*Flowers, Arbors 24, 30
Flowers, Chrysanthemums 23

G

Grape, the Early Section 54
Grape, Sphinx 92
Grape Cuttings, Rooting 214
Grapes, Eastern for Southern California..245
*Grape Growing in California 267, 280
Grapes, Tokay Cracked 343
Grain, Production of 105
Grain, Indian and Lima Beans 143
Grass, Bermuda 439
Grass, Johnson and Bermuda 440
Goat, Angora 166, 277
Garden Troubles 426

H

Hogs, Cholera, How to Prevent 145
Horses, Heaves 215
Horse, Draft, Most Profit in 277

I

Imperial Trip 232
Insects, A B C of, 4, 20, 36, 52, 68, 92, 108, 124, 140, 151, 180, 196, 212, 228, 244, 272, 296 320, 344, 392, 416, 440, 464, 484, 512
Insects, Parasites, Investigate Work of..37
Insects, Scutellista Spreading, 68, 141, 143, 272, 319, 510
*Insect, a Wonderful 137, 140
Insects, Friendly ....[illegible]65
Irrigation, Benefits of 66
*Irrigation, Queries 156
Irrigation, Summer 292
Irrigation, Measurement 242
Irrigation, Amount 438

M

Melon, Khama ....[illegible]0
Melon, Stock 182
Moth, Codling 109
Moth, Bee 134
Milk, Great Care in Handling 166
Milking, Art of 165
Milk, Pasteurizing 414
Mango, the 413

N

Nuts, Pecans Budding 6
Nursery Stock, Diseases of Deciduous....28

O

Onions ....[illegible]4
Orange Industry in California....209, 214
*Orchard and Dairy ....[illegible]11
Olives, Green Pickling ....[illegible]61
Olives On a Strike 182

P

Peach Pit Investigation 126
*Peach Root Borer, the California....177, 184
Peaches for Dry Region 290
Pear Blight 141
Potatoes and Peanuts 7
Potato Growing 21, 22
Potato, Preserving Sweet 270
Prune in California 17
Pruning, Deciduous 363, 367
Prune and Phenomenal Berry 391
Poultry, Roup ....[illegible]9
Poultry, the Utility Fowl 235
Poultry, My Chickens 243, 250
Poultry, Chicken Mite, How to Exterminate 278, 302
Poultry, Mallophaga or Bird Lice 368
Poultry Shows 470, 494
Poultry, Turkeys 516
Phosphate Rock 230

R

Rose Bushes, Resting 71
Roses, the Best 95
Roses, Large Income From 368
*Raisin Curing in California 153, 161
Raisin Association Still Alive 210

S

Silo Building 33, 45
Sisal 70
Scale, Apple 52
Scale, Black Parasite 53
Scale, Enemies of San Jose 125
Scale, Apricot 320, 512
Squirrels, Killing 51
Spraying, Suggestions on 157
Streets, Oiling 227

T

Trees, Eucalyptus for Hot Dry Regions. 169, 214, 246, 294, 342
Trees, Street 328
Tree Planting, Hints on....387
Trees, Value of Shade 470, 473

V

Veterinary, ...81, 128, 144, 236, 256, 274
Vegetable Raising in Winter 411

W

Worms, Silk, Lettuce for 35
Worm, Tomato 110
Walnuts, Budding 110
Walnut Bacteriosis 180
Walnut, Its Blight 225
Walnut Industry In Mountain View 522
Woman's Work in Poultry Yard, 9, 43, 99, 115, 219, 303, 350

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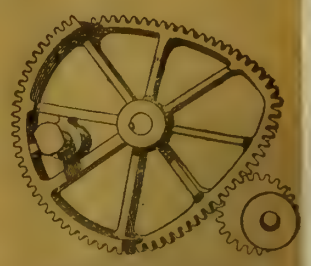
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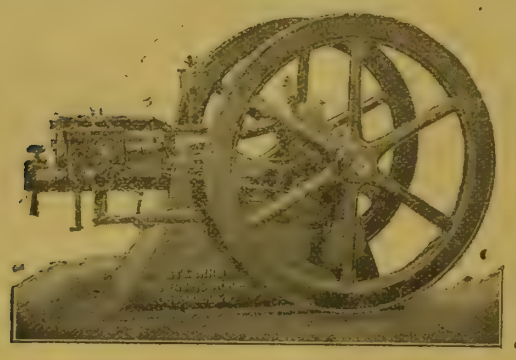

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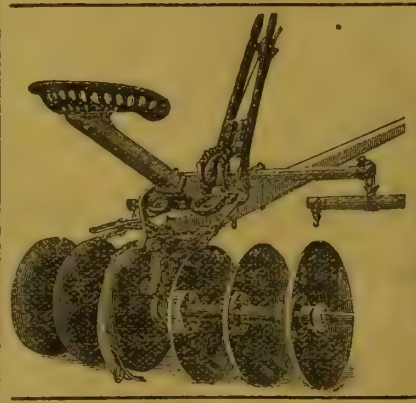

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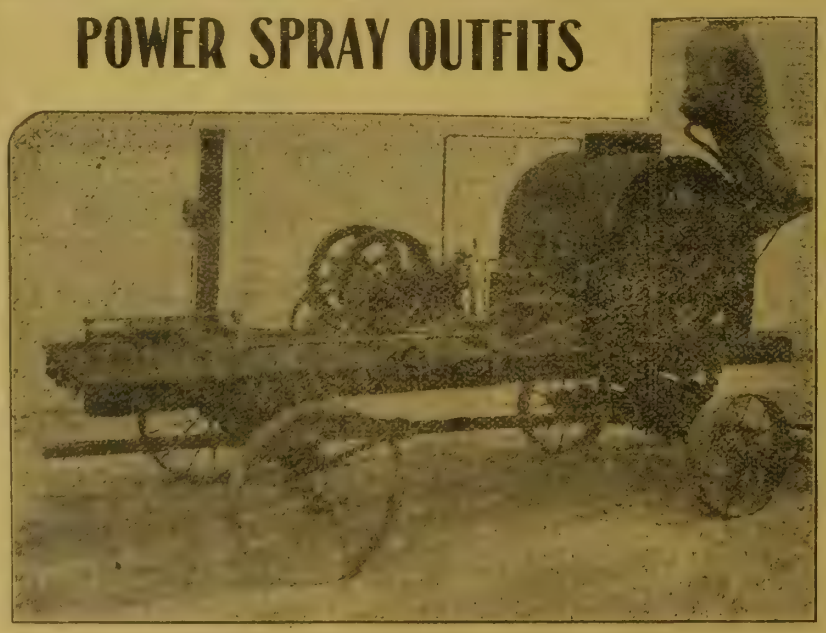

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

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PRUNING THE ORANGE

A Paper Prepared by Charles R. Paine, of Redlands. His Own Orchard is the Best Proof of the Worth of His System.

It was the pleasure of one of the Cultivator staff to recently visit Mr. Paine's place, between Redlands and Crafton, and the thrift of his trees was such a striking proof of the worth of his system of pruning that photos were made to use in illustrating the article, which, with some minor changes, is the same as read before the State Fruit Grower's convention held in Los Angeles in May, 1903. We trust they will add to the pleasure in perusing the article.

Mr. Paine writes us that the present is an especially opportune time for this paper as this is the season when the pruning should be done. If ripe fruit can be removed it should be done at once, as it will aid in the setting of the new crop. If pruning or other disturbance of the condition of the tree, such as deep plowing and cutting of roots, etc., occur at blossoming time it is probable a light crop may be had. Have the tree in fine condition at blossoming time, then leave it severely alone till fruit is set, excepting that, pruning may continue into the summer.

Mr. Paine's paper is as follows:

Pruning fruit trees and vines to improve the product is a very common practice, known from a distant period. The orange tree in its youth has done so well with little or no pruning that the practice has been quite general to let it go virtually unattended in this respect, at least until some irregular growth demands removal. Many orchards, perhaps most, have passed from youth through years of bearing satisfactory quantities and qualities of fruit with so little increase of care in pruning, so that a habit has been formed among many of regarding the pruning of an orange tree as a species of work rarely necessary.

There arises the question, occasionally, whether it is worth while to undertake the "appalling task of getting into the inside of an old orange tree to saw and cut off and drag out the dead wood." Perhaps it is not, if that is all that is contemplated by pruning. It gives content and repose to consider that it is nature's way of disposing of old and useless growth by deadening it; the brush takes but little room and does no harm. There is, however, one kind of cutting that is usually done, for it is plainly seen that it is a misdirected energy of plant life, that is the removal of suckers from the body of the tree. Neither sort of interference with the tree is a result of a studied system of pruning the orange either for the good of the tree, as a regular and thrifty fruit bearer, or for the good of the owner, in producing the best quality of fruit.

More Pruning Favored.—There are some exceptions to this general custom, who have founded their practice on good judgment and experience, and I think the tide has turned in favor of more pruning than in earlier times. But the minority is a small one who have reasoned, observed and acted according to sound reasoning and careful observation in regular pruning of the orange tree as a necessary feature of the work to be done in securing the best outcome; and few there are of this minority who can cut, with that unconcern which marks the pruner of deciduous fruit trees, the limbs or twigs that have any promise of fruitage.

There is no reason in laws of growth why the orange tree should be an exception to the general rule that pruning should be done to secure: "(a) Convenience of the grower; (b) Health and strength of the tree; (c) Regulation of heat and light; (d) Attainment of strong bearing wood; (e) Attainment of size and quality of fruit, and (f) Promotion of regular bearing." I quote from Wickson's "California Fruits," the best authority in the State, the above statement of the objects of pruning. They were made with especial reference, I presume, to deciduous fruits.

Note that the main fruit-bearing branches are encouraged, while the secondary and useless ones have been cut off, leaving all the sap to flow to thrifty, fruit-bearing wood.

This style of pruning brings fruit.

There is no orchard work more systematically and thoroughly done in California than the pruning of deciduous fruit trees, particularly by those engaged in growing the fruit for eastern shipment. There is no work of the sort more uniform over large areas of orchard. By this means, as could be done by no other, fruit of fine quality and good average size is grown of such value as to stand shipment across the continent. Thinning, to be sure, is an adjunct of this process, but not sufficient by itself. In fact, pruning of this or any kind of fruit tree, is one form of intense culture.

It is generally agreed that pruning is an essential for excellence of results. Man is satisfied only with the best products obtainable by the most skillful and costly efforts in directing nature's forces. A good market is impossible without prime quality. Quantity is an acceptable accompaniment to the grower.

There is no doubt that in any given locality, favorable seasonal conditions are the first requisite in fruit culture. Man can combat unfavorable weather by slightly protective or modifying measures only. It is left with him to improve varieties, to till and fertilize the soil and train and care for the tree or vine that bears his fruit. He early learns that nature is not a fruit grower, but a seed producer. She is a good mother, but it is not her forte to be a disciplinarian, in the fruit man's business, at least. If he forgets this fact, or neglects to act upon it, nature may do well without his aid, for a time, while the plant is young, and grow the fruit as man delights to have it, as well as the seed for reproduction. Eventually, she falls back upon the performance of her function, with undesirable results for the fruit grower. Then wisdom comes to him and he so directs the energies of growth that a fruitage rich and fair is the reward of his labor and his skill. May it be so with the orange grower.

Improvement Needed.—There is no question that we need to improve the quality of our oranges. A better orange than the Washington Navel may some time appear, but it is now this superb variety which has come to need improvement—for there are far too few of them of that high quality we once knew. In the most crowded market high grade fruit is the kind that sells, and sells to advantage. Neither our trees, nor our wagons, nor our packing houses, nor the railroad trains should be burdened with such a disproportion of second grade fruit, amounting, often, to one-half that is grown.

To a certain extent every year this condition is beyond remedy or change; for without doubt the character of the season is the most potent cause affecting the amount and qual-

(Continued on Page 93.)

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Friday, Jan. 22, 1904

OF GENERAL INTEREST.

War Clouds Not So Black.—This week shows eastern conditions as unsettled as ever. Hostilities have not broken out between Russia and Japan and negotiations which make for peace are still going forward.

Because the Czar of Russia is determined no war shall ensue, more concessions will doubtless be made and in the end a way will be found which leads to the conclusion of peace. So may it be.

* * *

Tourists Come.—With the mercury at 40 degrees below zero in many of the eastern states and people dying from exposure, no wonder the railroad statistics show west-bound travel increasing each year. Up to this date the statistics show 14 per cent increase over last year and the influx has not reached its maximum yet. This will insure a continuance of the wondrous prosperity which this region is now enjoying; for it is bringing to our matchless country a class of progressive, well doing people whose wealth and thrift are destined to make this the garden spot of the world.

* * *

Will Co-operate in Prune Selling.—The fruit growers of Santa Clara valley have organized a strong movement to protect the price of prunes. Hereafter no fruit will be sold until a committee appointed by the association passes on the price. The valley has been carefully canvassed and the estimate made that the output of prunes this season will not exceed 1000 carloads. while not over 1600 carloads will be exported from the State. The eastern market is also represented short on prunes at this time, owing to conditions which have disturbed the market there this fall. All these things make the prospects good for future strong prices, and the prune growers are putting themselves in position to reap the benefit of the demand later. The movement is one of the most important and most beneficially far-reaching that has been started for a long time in the interests of the fruit growers of the Santa Clara valley.

* * *

Welcome Rain.—The Cultivator last week said, "We are assured of rain." It has come.

Rain fell plentifully in the central and quite plentifully in the southern portion of the state, putting an end to the prolonged dry spell in the lower counties and aiding growing crops in the north. It was the biggest and most general storm of the season, and in view of the benefit which will result, was one of the most important that ever visited California.

With coast and valley counties well soaked, we may expect a revival of pastures and grazing crops.

The farming, dairy and stock interests welcome the rain as a great blessing. In the central coast counties, cattle were dying and the hard ground defied the plow. Enough rain has fallen to start green grass and partly insure a hay and grain crop in Southern California. Stockmen in many places had made preparations to ship their cattle to Nevada, but will now keep them at home. It is believed the rain for the season has just begun and from this on we shall have our full share of it. Let us all rejoice and be exceedingly glad for health and prosperity await the timely rains.

* * *

Benefit of Summer Fallow.—The Agricultural papers in Kansas and Colorado are telling of the startling returns which have resulted in those states from the aid of summer fallow. It has been demonstrated that it is possible to save enough moisture in the soil from one year to enable a good crop to be raised where this can not be done by depending upon the rainfall of a single season. That this is a fact which is regarded as a startling discovery, will seem strange to the great wheat-growing districts of the Pacific coast. The Oregon Agriculturalist says, "the fact has been known to farmers in Oregon and Washington for some years, who, by this plan are enabled to raise every alternate year heavy crop of wheat in distircts in which the total rainfall for a year is only from 12 to 18 inches. In fact, good crops have been obtained when the fall of rain was only about 10 inches.'

In California summer fallow is becoming general, not only as a protector of moisture, but as a method of preparing the soil for the early sowing of grain. Our Kansas and Colorado farmers are just commencing to learn that the most advanced methods of agriculture find their inception in the brain of the Pacific coast toiler.

* * *

The Pajaro Valley Resolutions.—At a meeting held a few days since at Watsonville, the orchardists adopted a series of resolutions on the subject of the sale of wormy and scaly apples in the San Francisco market. These resolutions recite that the markets of these cities are constantly glutted with this inferior fruit to such an extent that but a very small proportionate quantity of first-class apples can be sold and that the inferior stuff is sold at such low prices that little or nothing is netted to the growers. The enactment of legislation to prevent the sale of wormy and scaly apples is demanded to protect clean apples. If the Pajaro apple growers succeed in their efforts to shut such fruit out of the markets of California, growers will then attend more carefully to the cleaning of their orchards.

* * *

Seed Adulteration.—Representative Trimble, of Kentucky, has introduced a bill in Congress to prevent the adulteration of Kentucky blue grass, orchard grass and clover seed.

This bill is of singular importance to the agricultural interests of the United States and it is safe to say that the farmers of the country lose millions of dollars annually by sowing adulterated seed. The loss to the farmer in the purchase of the seed in insignificant compared with the damage wrought in sowing the seed as the result is half a crop and in the majority of cases, no crop at all. There is not one farmer in a thousand who knows that there is any such business being carried on in this country as seed adulteration; as those who are engaged in this business have become so sagacious they leave no trace or evidence of the adulteration, as all the inferior seeds with which the adulteration is made are put through a heating process to destroy the germ of the seed, consequently there is no appearance of the seed that is used in adulteration.

We trust the bill may become a law.

* * *

Oiled Roads Suit.—The city of Redlands has been sued for $25,000, says the Citrograph, for alleged infringement of the patent owned by a company of New Jersey capitalists. In this suit will be determined the question, as the Citrograph says, "whether one can take an old idea and patent it." It will be a novel decision of the courts if they shall so determine. Any patent attached to a commodity which is natural, and which makes for good to the public, adds to its comfort and health ought not to be sanctioned by courts at law. Oil roads are essential to the health of the people of California, and we hope the courts will not decide the patent good.

BY J. W. JEFFREY, LOS ANGELES

IMPERSONAL DISCUSSION.

From time to time the fruit trade papers of the East publish and often magnify the difficulties encountered in conducting the great co-operative plan of marketing citrus fruits. These journals are not always inclined to discuss the whole system, success and failure alike, but frequently dwell upon the prospects of a rapid dissolution of every plan that has not a commission merchant's label attached. We should not attach much importance to the criticisms of these journals, for they are under some obligation to defend the commission system, securing, as they do, most of their advertising support from the commission merchants. On the other hand the coast papers are usually favorable to the co-operators, and only one or two of them have ever come out in open opposition to the Fruit Exchange or the Agency's plan of operations. Two years ago an evening paper published a long series of articles designed to destroy the Exchange. Its objections were followed closely in this department of the Cultivator, and never were the contentions of a paper more thoroughly vindicated than were those of the Cultivator when the whole field of opposition came into the co-operative plan under the name of the California Fruit Agency. The western press has treated the co-operators well and even in the late controversy between the San Bernardino County Exchange and the central organization, and, later, between troublesome members of the Citrus Union and that central body, the California papers treated the troubles broadly and fairly. With such evidences of good favor from the home papers it matters little to the growers as organizations what is said of their policies by the Eastern papers, for the Agency is in charge there and not subject to fits of disorganization when difficulties arise.

Within the last eight months at least three small storm centers within the elements of the California Fruit Agency have been observed—one of them of very recent date. Two have been within the Exchange and the other within the Union, showing that perfection of operation is not possible. No one expects it to be. With these controversies the Cultivator has no part, as it is within the scope of the two wings of the Agency to settle their own difficulties, and, apparently, within their power. The Cultivator, however, has a part with the principles and policies that underlie, and may express a few broadly and without seeming to interfere with matters personal to these controversies. Speaking first for the Exchange, under its method of choosing representatives, the personal equation of the directory from their association boards to the central body in Los Angeles is bound to be higher in ability than the average equation of the stockholders. Every association in the Exchange knows its most competent men, chooses enough of them to form a board and advises with them during the shipping season. One of the abilities of these competent men is to select able men for the District Exchange Board and these select the Board of Control, which has charge of the business of marketing the fruit. The fact that there has never been a case of peculation or scandal or suspicion within the office of the Central Exchange speaks for the efficiency of this form of representation. Secondly, the customers of the Citrus Union have for years selected each his own firm with which to deal, another form of appointing his representative to attend to the marketing of the fruit. For at least a dozen years a majority of the growers have continued dealing with the firms now constituting the Citrus Union, and it is idle presumption now for even a small number of these growers to make trouble after deliberately choosing these firms to do business for them for the last decade. especially when the members of the Union are now prepared to represent the growers through an agency capable of giving fruit distribution upon a plan as near ideal as was ever devised.

The disaffected, if there are any, should pause and try to imagine the situation were the attempt made to sell 25,000 carloads of citrus fruits through the old, hap-hazard methods. Not longer ago than ten years, with one-fifth the fruit of the present crop to handle, the situation was deplorable. Were the growers to revert to these conditions with the enormous output now produced the situation would be absolutely hopeless. Instead of a few croakers, a few possibly with real grievances, there would be thousands running to bankruptcy, commercial chaos supreme and the final ending of a great industry at hand. Only the shortsighted can look into such a future without a panic of apprehension.

Director Alexander G. McAdie sums up the weather conditions to date in a bulletin issued January 18, as follows:

Rain commenced falling Sunday morning and extended throughout the State during the day and night. Heavy snowfall is reported in the mountain districts.

The precipitation in some portions of the south was more than half an inch, and is the first general rain since September. It will undoubtedly prove of great benefit in softening the soil for cultivation, starting grass and improving the condition of orchards. The rainfall this season in some parts of Southern California is reported less than in any season since 1849. Fair crops and grain and hay will probably be raised in the south if later conditions are favorable. The rain was not so badly needed in the central and northern sections, but will be beneficial to grain and feed. Plowing and seeding are in progress in most sections. Grain continues in good condition in the central and northern districts, though its growth is somewhat slow on account of cold weather. Prospects for large crops are excellent. Green feed is plentiful, but growing rather slowly. The reports of heavy losses of cattle through drought have been exaggerated.

The cold weather and lack of moisture have retarded the development of Southern California oranges in many places. Frosts have caused but little damage, owing to timely forecasts. Work in orchards and vineyards is progressing rapidly.

Glendora Citrus Nurseries

Washington Navel, Thompson Improved Navel
Valencia Late and St. Michael Orange Trees
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W. G. HALL - GLENDORA, CAL.

CITRUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

CURING LEMONS.

Editor Cultivator: Will you kindly give through the columns of your valu able paper any information you may have on curing lemons? Of course experience is the best teacher, but the experience of others is a great help sometimes.—Subscriber, Sespe, Cal.

Mr. C. C. Teague of Santa Paula has made what most persons would call an unqualified success of curing and handling lemons. He has given this paper his methods, but like most good things they will bear repeating. A visit to his place at Santa Paula is worth the time of any lemon grower.

Mr. Teague says the secret of successful lemon culture is "careful handling." He must believe it, for he has remodeled his washing machine so that he has run eggs through it and out onto drying trays without breaking them, they not having been touched by the hand. Mr. Teague says that washing does not injure a lemon if it is carefully done, but makes it more attractive. He has learned from experience that the proper state in which to keep a lemon for any length of time is where it neither sweats or gets dry enough to shrink. He found, as most growers no doubt have, that when lemons in all the different stages are stacked in the same room, some of them must suffer. This led him to experiment with tents under which he stacked car-load lots. The tents are simply square canvas, rigged with ropes and pulleys so that they may be raised and lowered at will. The lemons are stacked under these tents directly from the washer. The boxes or trays are stacked in doube rows so that with an adjustable jack, access may be had to the center of each box. One man attends to the examination of the fruit and when the condition of it indicates that it is too moist, the tent is raised until the fruit has dried off sufficiently. Mr. Teague has kept lemons for eight months in this way with practically no loss and the fruit came out and carried in first class shape. With his array of tents, he is able to handle each carload differently if necessary, and bring all of his fruit to the proper state and hold it there till he is ready to ship it.

There are numerous little details that continually come up and they must be disposed of to the best judgment of the operator. Mr. Teague's main point is, to keep the lemons just where they neither shrink or sweat. This, in conjunction with careful handling is all that is required to make a good lemon after it is once grown. All minor details should be directed to bring about those conditions.

Mr. Teague's tents are placed on a platform that is about three and a half feet high. Over this platform is a roof. There have been objections to such an arrangement by growers who live in the interior valleys. It is feared that the dry atmosphere that sometimes prevails would dry out the lemons too much. It is very likely that at certain times the atmosphere would be too dry for such an arrangement, but if the building had sliding walls so that they could be removed or closed up quickly, this element would be eliminated.

SCUTELLISTA VS. SPRAYING.

By C. A. Day.

Shall we, after this season, continue the use of distillate mechanical mixture as a spray for red spider, and for red and black scales? Judging from the present condition of things, my answer to this important question would be, no. The work of the scutellista on the black scale is so encouraging that it seems we may count with some degree of certainty on its eventually controlling this pest.

At Pasadena the scutellista has continued to attack the scale in condition, and will probably continue its work through the winter, and furnish flies for distribution throughout the winter and spring. With the establishing of the scutellista in the orchard, spraying with distillate and fumigation with cyanide, must cease, if we expect the parasite to increase in numbers sufficient to destroy the black scale.

When the scutellista has been established in the orchard and it should become necessary to treat the orchard for red spider, the sulphur mixture should be used in place of the distillate. The sulphur mixture is more thorough in destroying the spiders and will not, in my belief, injure the scutellista.

The sulphur mixture is composed of 11 pounds of sulphur, three-quarters pound of sal soda and one and one-half pounds of wheat flour to 100 gallons of water. The wheat flour is made into a thin paste and strained through a fine seive, using one pound of flour to a gallon of water and is then added to the mixture.

A spraying machine with an agitator in the tank should be used, as the sulphur does not go into the solution and the grains of sulphur, by the agitation of the mixture, are kept from settling, and when thrown in the spray on the leaves or wood of the tree, are stuck fast by the flour paste in the mixture. The action of the sun on the sulphur is to continue to release the fumes of the sulphur, which destroy the live spiders on the tree and is effective for several weeks in destroying the young spiders as they hatch from the eggs, until all the young spiders are hatched out, making thorough and complete work of exterminating the spiders. One spraying with sulphur every other year should be sufficient to control the spiders and prevent injury to fruit or tree, provided that adjoining orchards are sprayed at the same time.

For red scale, fumigation is more effective and thorough than the distillate spray, and one good fumigation for red scale should exterminate it, and is cheaper than spraying because it will not need to be repeated in two or three years, providing adjoining property is also disinfected.

The scutellista should not be placed in an orchard infected with red scale until the orchard has been fumigated, as otherwise the fumigation for red scale would destroy the parasite.

To sum up I would say, the scutellista, if given a chance, will destroy the black scale. The sulphur mixture will destroy the red spider without injury to the parasite or the black scale. Fumigation as an effectual treatment for red scale will not require an annual application and will not materially interfere with the scutellista. While a single spraying with sulphur mixture, or single fumigation with cyanide, will be more expensive than one spraying with distillate, the former will not be more expensive when we consider that its effect is more lasting. A continued annual use of distillate will interfere with the work of the scutellista on the black scale and for this reason, if no other, should be discontinued.

THE SALE OF CULL ORANGES.

The action of the California Fruit Agency, representing the Fruit Exchange and the Citrus Union, is arranging to discontinue the sale of cull oranges in Southern California is to be cordially commended, says the Riverside Press. The average tourist who comes here complains that he has difficulty in finding any good oranges, and that the fruit served to him at the hotels and restaurants is always of an inferior quality, and it is a fact that this complaint is well grounded. The most of the oranges that are sold on the fruit stands and purchased by the hotels and eating houses are of a grade that is not sufficiently good to ship east at all. The result is that the average consumer right here where oranges are grown gets much poorer fruit than the consumer in the East. A great deal of ruit that is peddled about the country and sold at fruit stands and restaurants is picked up by peddlers from the dump, where it has been hauled out from the packing houses. It is absolutely unmarketable and unfit to eat. Yet this is the stuff that eastern people are regaled with, and it is no wonder that they are prejudiced against the country and are led to think that we are not growing anything but a poor quality of oranges.

The Vacaville Reporter notes the increase of orange tree planting in Solano county this season.

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Mills & Masters

JAS. MILLS, Mgr. RIVERSIDE, CAL.

RIVERSIDE NURSERIES, Riverside, Cal. Fullerton, Cal., Oct. 24, 1903.

Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully, CHARLES CHAPMAN.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

A DESIRABLE ALL ROUND GRAPE

Thompson's Seedless grape is having a boom in some of the fruit sections of the upper part of the State. This is one of the most prolific of our vines, an exceedingly heavy bearer, and has so far proven itself one of the most profitable fruits that can be grown. The fruit ripens early, is a favorite table grape, both on account of its flavor and its seedless qualities. It is a good drying grape, and as a raisin commands a good price. The origin of this grape is somewhat of a mystery. It is claimed that it was originally purchased from a firm in Rochester, N. Y., and found in a shipment of other vines among which it had got by accident. When the vines came into bearing, this one was found to possess superior qualities and it was desired to get its name. Application was therefore made to the firm from which the vines had been purchased, but they did not know it, and so it has gone by the name of Thompson's Seedless ever since, for want of a better. Whatever its origin or name, the grape is one of the best we have, the bunches are very large and the vine an enormous bearer, while the fruit is always in good demand for the table, and dried, is superior to the Zante currant or the Seedless Sultana in the estimation of many of our housewives. Yuba City and Marysville are the centers of the Thompson Seedless section, and here it has given such good results that a very large new acreage is set out each year, and this season there will be a heavier planting than ever before; in some cases deciduous fruit trees, apricots and peaches, are being removed to make room for this grape as giving promise of better returns.

* * *

THE COMING MONEY MAKER IN FRUIT.

The successful introduction and establishment in our State of the Blastophaga grossorum, or fig wasp, for which we are indebted to the persistent and untiring efforts of Geo. C. Roeding, of Fresno, has opened a new and what promises to be, a very profitable industry to our California horticulturists. Mr. Roeding has demonstarted what for years was a disputed fact, that by the aid of the fertilizing insect, genuine Smyrna figs can be produced in California, and he has further demonstrated that by care in packing and selecting, a brand of figs can be put upon the market from our State that is even far superior to that imported from the native home of this fruit. During the late fruit growers' convention at Fresno, Mr. Roeding had a lot of his pack of figs on exhibition, and they were sampled by all the leading fruit growers of the state, men eminently qualified to judge, and it was the unanimous sentiment that our California figs were far superior to any they had even eaten. This is true, and it is due largely to the care and cleanliness in packing. The Smyrna figs are handled in true Oriental fashion, regardless of consequences, and are packed in the dirtiest way by men who have no regard for cleanliness of person or surroundings, and oftentimes by the time they reach the consumer they are alive with insects. In our packing houses cleanliness is the first requirement, and every precaution is taken to see that the fruit is absolutely free from insect eggs. It is packed in the neatest and most attractive manner, and there is no good reason why there should not be a much larger demand for figs in the United States than ever, when we can produce so good an article and offer it in presentable shape. Mr. Roeding has taken the name of Calimyrna for his trademark and this is the mark of his particular pack. Under this he proposes to build up his name in the fig business, and he is in the right. There is, however, no limit to the production of the Smyrna fig in California, and now that our fruit men have been shown the way, there is every prospect that a very large new industry in the growing and marketing of this new fruit will grow up. In the Sacramento valley there are already some very large orchards of Smyrna figs, and the acreage will be increased year by year, until we shall no longer import figs from Smyrna, and will supply vastly more of this delicious edible from our State than has ever before been consumed.

* * *

SPRAY ON SUSPICION.

A London sweep, expatiating on his extraordinary personal cleanliness to the clergyman of his parish, said: "Vell, yer see, I allus makes it a rule to vash my face vonce aveek, vether it vants it or not." Perhaps the same rule would be a good one to apply to our orchards in regard to spraying, although with even less frequency than the hero of our story washed his face. Spraying is a good thing sometimes to do on suspicion. If your apricot trees were affected with shothole fungus last season, if your peach trees had curl leaf, if your pears were troubled with cracking and your apples with scab, you may be sure that the spores of all these diseases exist in abundance on the trees this season, and if not killed out in some way the disease is going to be worse than it was last year. Now all these diseases belong to the fungus group, and the same remedy is applicable to all, and it has got to be a preventive remedy, for when a curative one can be applied the disease will have run its course, all the damage will have been done, and the trees may as well be let alone for that season. So if your trees were troubled last year you will have reasonable grounds for suspicion that they will this, and it is well to act upon that suspicion and start in on them while the season permits. The two principal remedies used in these cases are the salt, sulphur and lime wash, which has been found effective as a fungicide as well as an insecticide, and the Bordeaux mixture, which is the standard fungicide, in use and recommended all over the United States. The latest formula for the Bordeaux mixture has been given in these columns recently and those who desire to refresh their memories in regard to it can find it there.

Redlands Nurseries

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Extra Fine Lot. Absolutely Clean

James Mills - Riverside, Cal.

BY J. W. MILLS, ONTARIO, CAL.

IRRIGATION OF DECIDUOUS TREES.

Editor Cultivator: Will you please state how soon after gathering the fruit from prunes, peaches, cherries and apricots, should irrigation begin and at what period should it cease, so as to allow the trees to become dormant and form fruit buds for the following season? Also, how much water should be given trees as winter irrigation on a soil of loamy, sandy nature, mixed in some places with clay and in a few places with adobe, yet having good under drainage.—Subscriber, Edenvale.

There is no straight rule for irrigating any of the above varieties, except as far as general principles go. It is usually advised that all irrigation cease after the pit hardens, but with some of the late varieties of peaches this is not practical unless the soil is very retentive of moisture and very deep. Even varieties that ripen in mid-season will be benefited by an irrigation when they are nearly grown, or within a month or so before they ripen, provided they are on a soil that cannot retan enough moisture from the rainfall or early irrigation, to properly mature the fruit. It is up to the man who owns and works his orchard to know his ground so well that he knows where frequent irrigations are necessary and where they are not. The trees in a full bearing orchard will show for themselves. In sections where the subsoil is streaked, the growth of the trees after they are old enough for the roots to penetrate to these subsoils, will show where the different characters of soils lie. It is not advisable to irrigate within a month of the time of ripening, especially with apricots and freestone peaches. The irrigations that follow the picking of the fruit will depend on the condition of the trees and this depends on the subsoil. We know of cherry orchards for instance, that receive no irrigation other than the natural rainfall and produce abundant crops of high grade cherries. The subsoil is rich and deep and holds the moisture. There are also cherry orchards that require frequent irrigations and there are soils that may give all the gradations between these extremes. Without the actual experience of several years it is impossible to give reliable advice on these matters. Trees should remain as thrifty after the fruit is off as they were before, and if the crop makes them look "tired" they should receive water as soon as the fruit is removed. If on the other hand they remain fresh and vigorous, we should consider an after irrigation useless. Fruit buds do not form during the winter, but while the trees are growing during the summer time. If the trees continue to make some growth at certain intervals during the summer and fall, the buds will mature properly. Strong vigorous buds are indicated by the swelling at their bases, increase in size, denoting increase in vigor.

On land that requires irrigation it is pretty safe to apply the water as soon as the fruit is off the trees. On land that has some clay or adobe, care should be taken when irrigating in the winter. If the soil becomes saturated and continues so in the late spring, the sap sometimes ferments and kills the tree. If water collected in augur holes that are two to three feet deep late in the spring, we should count any winter irrigation that we might have given a detriment. A few such holes in an orchard would reveal such conditions should they exist. Should the soil be mellow yet wet to three or four feet and without standing water, we should consider winter irrigation, had it been practiced, an advantage. The time of applying winter irrigation is immaterial. The climatic conditions control the blooming and other growths of the trees. Irrigation might cause a variation of a few days in these growths of the trees, but there would be no practical difference. The cherry ripens so much earlier than the other varieties of fruit named, that it may easily receive an extra irrigation or two after the crop is picked, but it is also very sensitive to an over dose of water, especially during the spring. Peach and plum trees on plum root will stand over-irrigation much better than when on peach root. The safest way to ascertain how much water should be applied is to make a few holes at different places in the orchard and observe how the water acts in the soil.

* * *

CASSAVA CUTTINGS.

Editor Cultivator: Will you please tell me through your paper where I may obtain roots or cuttings of cassava?—T. S. Reynolds, Hueneme.

By addressing the agricultural station at Fort Meyers, Florida, you will be able to get into communication with some reliable person who has them for sale. Great care is necessary in packing them. They should not be allowed to heat the least bit. It has been our experience that the light colored cuttings only will grow. They should be shipped in spagnum.

* * *

MILDEW ON GOOSEBERRY PLANTS.

Editor Cultivator: Will you please give a remedy for mildew on gooseberries if there is one, or will I have to grub them out. I have some fine bearing bushes, but when they get nearly ripe they become covered with mildew.—Subscriber, Waddington, Cal.

Apply with a spray pump just as the green leaves are unfolding, Bordeaux mixture or potassium sulphate solution. The first is made by dissolving four pounds of bluestone in 20 gallons of water and slacking four pounds of quick lime in 20 gallons of water and mixing the two. The potassium sulphate solution is made by dissolving one pound of the powder in 32 gallons of water. Drench the plants so that the liquid will run down onto the ground.

BURYING MANURE.

Does manure stay where you put it, asks a writer in Small Farmer, or does its beneficial effects rise and fall in the soil? That is a question, says the editor, that seems to call for a division of opinion. There are men who assert that manure sinks in the soil. That is, the leading rains wash it downward, and for this reason they claim it should be applied at or near the surface.

On the other hand it is asserted that its volatile and most valuable parts rise by means of fermentation, and that it is a good reason for burying deep.

As a rule manure stays just about where you put it. If plowed under in lumps, it has not the power to sink nor rise, nor can it in any way intermix itself. Thorough harrowing before turning the manure under, rewards in large crops.

Clay has great power to absorb the fertilizing portions of manure, consequently such soils as have a medium amount of clay or loam, generally absorb all the valuable parts of barnyard manure.

A writer of considerable note, about forty years ago, computed that forty loads of manure spread on an acre, while making a heavy coating, was only one load to four square rods, constituting a depth after being spread of about one-third of an inch. In a case like this, when plowed under the volatile parts have but one-third of an inch to pass before all are absorbed by the soil. This shows the great importance of thoroughly mixing the manure through all parts of the soil in order to obtain the full benefit."

Bertie—"Are we any kin to chickens?"

Gertie—"Of course not; we're people."

Bertie—"Well, Uncle Harry says papa was a mighty bad egg when he was young."

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We carry a full line, including Cling Peaches, Black Walnuts, Carolina Poplars grown on virgin soil and free from bacterial or fungus diseases and insect pests. They are the kind that grow and Pay. Write at once for prices and catalogue.

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Conducted by PROF. A. J. COOK, Claremont, Cal

A B C OF INSECTS.

Aculeatā—We now come to those insects that have their ovipositor developed into a sting. This carries often enough venom, so that it is quite a formidable organ of offense and defense. It will be remembered that the scorpion has a venomous sting, the centipede a poisonous bite, some of the bugs, the so-called kissing bugs, secrete poison and so are dreaded, as are a few spiders, while not a few flies can bite in a cruel fashion. When the wound of mosquito or gnat swells, it is supposed that it is not poison that effects so much as germs or bacteria that cause the severe irritation. A few spiders, while not a few flies poison about as does a nettle, by the irritating punctures that are made by the stiff spines that clothe their bodies. Aside from these no insects other than these aculeata can poison by bite or sting.

* * *

Cow-killers—There are from Kansas to California a family of insects called cow-killers, or Mutillidae. In general they remind us of ants. They are usually red, with black markings, or else grayish white. The ones that we see most are wingless. They have long hairs, and a very powerful sting. These are the female. The males look much the same, only they have wings and can not sting. They are solitary, that is they do not live in colonies as do the ants and social wasps and bees. They feed on insects and so may rightly be regarded as our friends. They even kill and eat honey bees. They breed in holes in the earth, and are rare in all sections of the country where they are found.

* * *

Ants—The familiar ants are also aculeata, though their sting is feeble and less dreaded than is their bite. They remind us of the bees in that they are in large colonies, and in these we find the winged queen, the winged drones and the wingless females, the ones we generally see, as they are very common and crawl or run to and fro over the ground. Besides these, we have the large headed soldiers. These are armed with strong jaws, and are abortive males, as the workers are abortive females. The queen always remains in the nest, which consists of extensive tunnels under ground. In midsummer the young males and queens develop and fly forth to mate, when the air will seem full of these mating ants. After the mating the workers conduct the young, now fertile queen to her new home, eat off her wings, and so she is now held a prisoner, I dare say a willing prisoner, for life. Her work henceforth is to lay eggs and nothing more. The males only do sex duty. The soldiers protect the colony. The food consists of seeds, insects, nectar and honey dew. Ants often come into our houses in a way to become very troublesome. It is found that a large string moistened or wet in a solution of corrosive sublimate will resist them if placed across the path of entrance. All insects have a great aversion to this poison. Let us not forget that it is a very virulent poison and be guarded if we have it about the house. It is wise to have a place in the house for poisons where they shall always be kept and where nothing else shall ever be put. Buhach or insect powder will also keep the ants away, but it must be applied often.

There are many strange things about ants. They make prisoners and keep as slaves other ants, they keep and guard plant lice in their nests, which serve them as a sort of "milch cow," as they feed on the honey dew that the aphids extrude. When we see ants on a tree running over the twigs and branches, we may be pretty sure that either aphids or scale insects are working on the same tree or plant, and are furnishing the ants with this nectar. Of course at times ants live in tunnels which they bore in the trees for a home, usually in partially decayed trees, and then they crawl down the tree as they go for their food.

The honey ant of the western parks is peculiar in another respect; some of these develop an immense stomach and strong legs and always hang to the rock walls of their homes, and are vital honey jars. The other ants gather nectar and hand it over to be stored by these ants with the big stomachs. The Indians use these at their banquets for dessert. They eat them much as we do grapes in hand.

For the most part ants do little harm. They annoy us in the house and on the lawn. In the latter case we can kill them by use of bisulphide of carbon. In Florida a species of ants kills bees, and in some places ants are condemned for eating the foliage of trees and plants.

* * *

Wasps—There are several families of wasps. Most are solitary, like the mud wasps, though one or two familes are social and make for a home large paper nests out of wood pulp. Thus the ants were first to make wood paper. These yellow-jacket wasps are very predacious and do us much good. Other wasps nest in the earth, some in hollow stems, while many construct mud cells in which the young are reared. The yellow jackets remind us much of bees in their way of life, only they feed their larvae digested insects, instead of digested pollen. All the ants are very helpful to the farmer, as they rid him of hosts of injurious insects. Wasps are dreaded far more than they need be. If undisturbed, they are usually peaceful. I have had a large wasp nest right near my porch. I often went close to the wasps and watched their maneuvers, and as I never molested them they were always amiable to me. They only resent intrusion and harm, and they are well endowed to do that effectually.

* * *

THE PEPPER TREE.

Mr. Titus, Pomona, asks for the name and for my opinion of the pepper tree for street planting. The scientific name of this tree is Schinus Molle. It is a native of Mexico, and South America. It belongs to the same family as the poison sumac, the poison ivy and our own poison oak. I know a lady that contends that this pepper is poisonous to her. I think that this is not generally true, or we should hear more of it, as this tree is used much for decoration.

It seems to me that this tree is worthy of all praise as a street tree. It is exceedingly beautiful, will grow fairly well after it is once started with no irrigation, and is a choice tree to furnish twigs and branches for decoration. The ample compound leaves are replete with grace and beauty, the flowers are attractive, and the fruit is a drupe and the clusters of red on the pistillate trees are exquisite as they hang against the foliage. As all must have observed, the tree is dioecious. The staminate or male tree is not so attractive as is the pistillate tree when pendant with its lovely red fruit clusters, yet it forms a pleasing variety and both trees are very attractive. The only objection that I know to this beautiful tree as a roadside tree, is that it attracts the black scale. This is true, though it is not a favorite with this pest. We shall hope that with the presence of the Scutellista among us, this objection will lose its weight. Indeed it is good to have these trees now, as we can liberate the Scutellista on the peppers and spray our citrus trees, if they need it and not harm the little chalcids. So I am free to recommend the pepper as one of our most desirable street shade trees.

* * *

THE ORANGE TOTRICID.

Supervisor Davis and several others at the Glendora Institute remarked on the abundance this year of the little caterpillar that works in the orange. From remarks made it must be much more in evidence than is its wont. This is a common experience with all our insect pests. They will come in greater abundance occasional years. I presume that these will be scarce again next year. They have been in the orchards for many years and have never become abundant. Circumstances do not seem to favor their rapid increase. Though they are closely related to the codling moth, yet they feed for the most part on the foliage and so are much more exposed than are the caterpillars of the codling moth. If they become too numerous it may be well to gather the affected fruit and destroy it and them. The early coloring of the injured fruit makes this practicable.

* * *

THE LINNETS.

These little pests are becoming very annoying. They are great destroyers. They commence at one end of our apricot tree and take every bud on the twig. I like their merry chirp and enjoy to see them so free and so happy, yet I would like a little fruit. One is tempted to get the shot gun and see if they can be frightened away. They are certainly very provoking little thieves.

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Coast News and Notes

BY R. A. DAGUE, ROOM 416, HEARST BUILDING, SAN FRANCISCO

AGRICULTURE.

The acreage planted to melons in Cochella valley will be greatly increased this season.

Bolsa farmers who last year planted 2000 acres of sugar beets, have so far refused to enter into a contract this season.

The Ukiah Times says hay and grain prospects in Mendocino county never looked better than at the present time.

The Orange county peanut growers have generally decided to stop raising the nuts and plant their lands to more profitable crops.

Florin, near Sacramento, shipped last season 160,000 cases of 15 pounds each of strawberries, and 200 car loads of table grapes.

The dry weather will cut the celery crop of Southern California short over 100 cars. Most of the season's output has been marketed.

W. E. Meek of Haywards, the noted fruit and vegetable grower, has purchased 160 acres near Coachella, which he will put out in asparagus.

The growers of tomatoes and other vegetables in the vicinity of Haywards have organized to regulate the marketing of their crops next season.

Anspacker Brothers of Livermore are baling 1000 tons of hay for the Philippines. They do the work with an Ajax press operated by electricity.

A farmers' institute is in session at Lindsay. The program includes papers on insects, irrigation, household, dairying, pruning and fertilization.

The Agricultural Department of the State University will test the efficiency of the new French machine for extracting oil from olives by centrifugal force.

The farmers of the Sacramento valley are seeding an unusually large acreage this winter. More grapes of the Tokay variety than usual are being planted, also.

The canteloupe growers of Cochella have transferred their contract for shipping melons from Lyons & Coggins to E. R. Nichols & Co. of Chicago.

A special meeting of the California Raisin Growers met in Fresno the 13th. A motion was made by Theodore Kearney to cut prices but it was voted down.

Prof. Dryden of the Utah State Agricultural College has located his family at Fullerton for the winter. He has the most extensive and expensive experimental station in the United States.

The Phenominal berry, one of Luther Burbanks' latest productions, described as larger than the largest berry ever before grown is being extensively cultivated in the Imperial country.

The California Vegetable Union is reported to have shipped since November 1st over 10,000 crates of tomatoes, to all points in the East. This is the heaviest shipment ever made in one season.

The Imperial region is counting on furnishing a great amount of wheat and barley hay to Southern California, provided we do not get rain enough to perfect a crop throughout this part of the state.

The hop growers of Oregon are so well pleased with the results of the past two years that the hop acreage will be increased 10 per cent this year. Some contracts have already been entered into at 15 cents.

Ex-Senator Darggie of Oakland is installing a $10,000 pumping plant on his ranch in Santa Maria valley with which he proposes to irrigate fifteen hundred acres of that choice valley to be planted to sugar beets.

The hop crop of the State of Washington will amount to 40,000 bales this season, an increase of 8000 bales over last year. This means a revenue of from $250,000 to $300,000 more than was received for the previous crop.

Yakima county, Washington, raised more hops this season than ever before, but they were very poor in quality, because of the ravages of the hop louse, the damage amounting, it is estimated, to upwards of $150,000 in that district.

Last year the wheat crop of Kansas amounted to over 94,000,000 bushels, valued at $52,426,000. Corn led in value, it being worth over $57,000,000. The total value of farm products of the State as given by Sec. Coburn for 1903 was $223,984,498.

The Tahama New Era reports the bringing into that office of two bunches of young grain—one of barley and the other of oats—which were fully headed out. The barley stalks were about three feet high and the oats five feet. They were both of volunteer growth this season.

The Stockton Independent says that the Stockton winery each year makes heavy shipments of wine to the East, both by rail and water, but as a rule the bulk of the wine is ordered shipped on sailing vessels, as it is claimed that wine ages very fast on board a deep-sea vessel.

The longest run a California beet sugar factory ever had was finished on December 13th, when the Union Sugar Co.'s factory at Betteravia closed. The run lasted 150 days, and during that time 120,000,000 pounds of beets were worked, and 160,000 sacks of first-class granulated sugar was made. The largest amount of beets sliced in twenty-four hours was 534 tons.—Chino Champion.

The Chronicle says: Director A. V. Taylor of the Raisin Association is reported as saying that there is no reason for the growers to feel alarmed, despite the fact that this year there was harvested one of the largest raisin crops in the history of the industry—about 5800 cars, 4800 of which are inside the association and 1000 outside of it. Of this amount the association had sold, up to December 1st, 2200 cars, while probably 900 cars of raisins outside of the association had been sold. This leaves but 100 cars not sold, outside of the association, while the association has about 2600 cars on hand.

HORTICULTURE.

The fruit growers of Sutter county are preparing to begin spraying.

Over 350 car loads of fine oranges have been shipped from Palermo this season.

The farmers of Sutter county are this winter planting an unusual number of almond trees.

And now it transpires that the apple crop of Washington is only about half what it was in 1902.

State Horticulturalist A. Van Hoedesbeke reports that 150,000 fruit trees were planted in Washington last fall.

Alexander Craw, quarantine officer, has received encouraging information as to the work done by the scutellista in Santa Barbara county.

Alex Craw, Deputy State Horticultural Commissioner, inspected the nurseries of Sutter county last week to ascertain if they were free from injurious insects and diseases.

Wm. Barry, Horticultural Commissioner of Alameda county, in his annual report for 1903, says that the value of the fruit crop in Washington and Pleasanton townships was $94,228.

The Riverside Enterprise speaks of the receipt by the Chamber of Commerce of some very fine apples grown on an elevation of 5000 feet. The owner built a concrete house for his apples in the side of the mountain, which preserves his fruit better than a cold storage plant.

Arizona Everbearing Strawberry Plants

Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

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I will sell my ranch one mile east of San Bernardino, consisting of 64 acres, mostly damp land, peat or underlaid with peat. This is the finest dairy and alfalfa ranch in San Bernardino county. Will sell with implements and stock if desired. For price and terms, address

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Valencias, Washington Navels and Eureka Lemon Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.

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Ollas, Vases and artistic Pottery, and Pottery for Floral Plants. Fancy Hanging Baskets and Wall Baskets, Etc., Rose Propagating pots a specialty.

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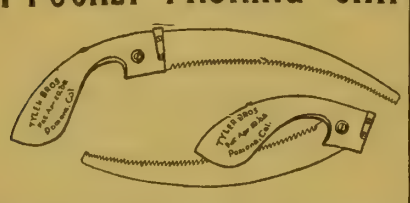

Fits the Hip Pocket Better Than a "Gun"

And is much more useful to the horticulturist. The blade is thin and of the best steel. The long teeth disposed at the proper angle makes it a rapid and smooth cutter. The handle is the right shape. **Price $1.00.**

DEALERS WANTED EVERYWHERE.

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The largest stock of Apricots and Peaches in Santa Clara Valley

Apricot—Blenheim, Hemskirke, Moorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings etc.
Prunes—French, Imperial and Sugar.

Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop

THE

Vernon Nursery

4524 CENTRAL AVE.,

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Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.

We still have a few of the finest two-year-old walnut trees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

A. YARNELL,

PROPRIETOR

4524 CENTRAL AVENUE

LOS ANGELES, CAL.

Coast News and Notes

CONTINUED

The California Horticultural Commission is preparing a cabinet containing noxious insects that attack our fruit trees, with their parasitic enemies, to be put on exhibition at the St. Louis Fair.

The board of supervisors of Fresno county has decided to discontinue the services of the three horticultural commissioners after January 31, of this year. No reason is assigned for this action.

The new packing house of the Lemon Exchange at Upland is about completed. The floor space will be 11,250 square feet with a basement 50x75 feet. When finished the building will be ample for the lemon growers of Upland.

W. H. Volck, of the State University, is making an examination through Southern California orange groves as to the cause and extent of the spot which causes decay in oranges. While he does not state cause of the disease he is satisfied it is not caused by insects.

P. J. Dreher of Pomona has made an investigation to ascertain the cost of raising oranges. In a total of 2828 acres, valued at $1,970,905, the cost of fertilizers and labor was $200,891, an average of $691.50 an acre, which includes land, water, reservoirs, pipe lines and equipments. On this basis he estimates the average cost of oranges per box at $1.19 delivered at the car.

Henry C. Allen, owner of Allendale ranch near Pasadena has placed on exhibition in Pasadena a collection of citrus fruit which includes the best varieties grown. The idea is to influence the authorities in placing a government experimental station at Pasadena, for it is argued that every kind of tropical and semi-tropical fruit can be grown in this part of the state.

At a mass meeting held at San Jose on Saturday, the fruit growers of the Santa Clara valley pledged themselves not to make any sales of their prunes without first consulting the Executive Committee, appointed at a previous meeting. Arrangements were made whereby any who must sell soon may sell at market prices to the committee, thus strengthening the market instead of depressing it.

The California Fruit Distributors have the following officers for 1904: President, Frank H. Buck; Vice-President, W. E. Gerber; Secretary and Manager, Alden Anderson; directors, H. A. Fairbanks, C. M. Hartley, T. M. B. McKevit, G. D. Kellogg, A. R. Sprague, C. B. Bills, A. H. Schnable and A. C. Short. Lieut. Governor Anderson will remain as heretofore, manager of the Association.

LIVE STOCK.

The Palo Alto creamery has been sold to A. H. Humphreys.

Kings county creamery is turning out more butter at this time than last year.

J. C. Holliday has been elected manager of the Arena creamery, Mendocino county.

A party of capitalists is perfecting plans to establish an extensive dairy in Kern county.

J. C. Young of Taylorville is about putting in a co-operative creamery in Indian Valley, Plumas county.

The Sonoma County Co-operative Poultry Association is preparing to do business on a very extensive scale.

The value of the live stock now in California is estimated at $73,000,000—one-third of that amount being cattle.

Eastern dairymen are looking to California. The point of view seems to be Mendocino and Humboldt counties where feed is plenty.

The citizens of Ceres, Stanislaus county, are preparing to build a co-operative creamery to take the place of the one destroyed by fire.

George Y. Coutts writes the Cultivator that he has sold H. H. Needle of El Cajon, a fine bull calf, and to E. M. Wheeler of Tustin, a heifer calf sired by Pacific Golden Lad.

The Jackson Granger Co., with $50,000 capital, is proposing to establish one of the best dairy plants in California at Decoto, Alameda county.

The ranges in northern Santa Barbara county which have been overstocked with cattle are experiencing trouble. Cattle are dying for want of fodder.

G. G. Pliter of Imperial will shortly bring to that valley 3000 head of grade sheep from Texas. This will be an additional industry for that section.

Ex-Senator F. I. Wolcoot, of Denver, Colorado, has just closed a deal in Texas for 500,000 acres of land in the Panuco river country, on the coast of the gulf, which will at once be stocked with cattle.

The Chedley Cattle Company of Sturgis, S. D., which was organized about twenty years ago, with a capital of $500,000, has sold its cattle to private parties and will retire from business. The original incorporators are all dead.

In the province of Hanover, Germany, there are 95 associations which handle annually over $20,000 worth of eggs. The eggs are usually bought by weight and the price under their control has advanced about one fourth of a cent per egg.

The fright among stockmen over the drought, and the report that cattle were dying as a result seems to have been premature. Some stock have died of dry murrain but none have starved as yet. We glean from the Porterville Enterprise.

MISCELLANEOUS.

Imperial is moving for incorporation.

A new two-story hotel is being built at Imperial.

The Tule river irrigation indebtedness has been wiped out.

At Lompoc the oil industry is more prosperous this year than ever before.

The new milk condensing factory at Tempe, Arizona, is completed and operations have begun.

The Board of Trade of Redlands spent $1293.69 last year in advertising that beautiful and energetic town.

The Board of Supervisors of Tulare county has established the tax on slot machines, also the county tax, etc., paid by merchants.

The Woman's Improvement Club of Healdsburg have planned to plant trees along the county road for a distance of four miles.

G. A. Barry of Santa Paula has been elected a delegate to the Camino Real convention which meets in Los Angeles January 30.

Representative Daniels has introduced in Congress a bill for $250,000 to purchase a site and erect thereon a Federal building in San Diego.

The Mt. Whitney Power Company of Tulare is putting in a large power house on the Kaweah river to assist in irrigating the bottom country.

The Napa Woolen Mills have been sold to J. D. Ladley and F. Carter of Portland, Oregon, who will re-equip them with new and modern machinery.

Japan imports annually condensed milk to the value of from $325,000 to $350,000 and but an insignificant amount goes from California. Here is an industry worth looking after.

California rural routes have been established during the week as follows, service to commence February 15: Hynes, Los Angeles county, with one; Nestor, San Diego county, with one.

FREE BOOK

Every woman will be interested in a neat little book published by the California Specialty Co., Frost Building, Los Angeles, Cal. This book gives complete information about toilet articles, etc.; tells all about prices and gives much information of value to all ladies. Readers of this paper can have a copy by sending in their name now.

2,000 ENGLISH WALNUT TREES

Raised from selected seed. They are very thrifty and range from three to eight feet in height and are free from any blight. They have been so declared by Horticultural Commissioner Jeffrey.

S. H. TAFT, SAWTELLE, CAL.

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Shade Trees, Berries, Roses, Pansies

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500,000 plants of all the leading varieties, GROWN FROM PEDIGREE STOCK. Interested parties invited to visit our place and see Brandywine and Belts in full bearing.

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Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
For descriptive list address

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Strawberry and Dewberry Plants

Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.

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Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina

ONE MILLION

Gardena Dewberry

PLANTS FOR SALE

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Berry Plants

Lady Thompson, Brandywine, Excelsior. Guaranteed Eastern Stock. Also Gray's Dewberries and Blackberries. From this A1 stock in virgin soil you will get plants that will give you the highest results Write today.

J. PARSONS - GARDENA, CAL.

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Arizona Everbearing, Saxton's Noble, Excelsior, Brandywine, Sample P. Coruuna Mexican Gladstone, Gray's Gardena Dewberry, Loganberries and Blackberries.

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Phenomenal Berry PLANTS

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THOMAS PHOSPHATE POWDER

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Write for pamphlets and prices.

Sievert Oil Burner Co.

A Perfect System of Heating with Distillate Oils. Made in sizes for Stoves, Ranges, Bake Ovens, Furnaces and Boilers. Send for circular

1005-1007 N. ALAMEDA ST., LOS ANGELES

FLORICULTURE AND GARDENING

[BY ERNEST BRAUNTON, GLENDALE, CAL.

PARKS OF NEW YORK

New York City has over eighty parks ranging in size from less than an acre to over seventeen hundred acres in extent. It has two of greater extent than its famous Central park. Those of five hundred or more acres are: Pelham Bay park, 1,756 acres; Van Cortlandt park, 1,132 acres; Central park, 843 acres; Bronx park, 660 acres; Prospect park, (Brooklyn) 516 acres. Numerous other smaller parks make up a total of about 7,000 acres. California has two city parks larger than any in New York.

* * *

CATALPAS.

Ed. Cultivator: Please inform me as to cultivation of catalpa trees in Southern California. Where can trees or seeds be obtained.—D. B. Richards, San Marcos, Cal.

We can give you all the information needed about the commercial growing of the trees in the states of the Middle West, but do not know of them being grown here except as ornaments. We would be pleased to hear from any one growing them on a large scale For trees or seeds write to any Fresno or San Francisco nurseryman advertising in our columns.

* * *

OPIUM POPPY.

Ed. Cultivator: Please answer the following questions through the Cultivator: 1st. What variety of poppy produces opium and how is the opium obtained? 2nd. How should I plant cultivate and harvest peanuts, to be successful? 3rd. What is the best eucalypt for high, dry land; also the best one for border of gulch, where there is more or less moisture?—Subscriber, Los Gatos, Cal.

The opium poppy is the common, large-flowering annual with glaucous—blue foliage (Papaver somniferum.)

Opium is made from a milky juice which exudes from cuts or slits made in the sides of the green (or immature) seed capsules. You can easily obtain this fluid by trying the above experiment. Question two will be answered by Mr. Mills and number three by Prof. McClatchie, to whom they have beeen sent.

* * *

TRITONAS.

These popular plants, known in general as montbretias, and closely allied to gladiolus, are usually seen only in one color, an orange-red. Perhaps by reason of one shade only being common, they are not more popular, but as they are positively among the easiest of plants to grow, those having little in their grounds in the way of ornamentals, should procure a few bulbs. They increase rapidly and make a splending border, or low background, during a large portion of the year. During the past few years no less than eight or ten distinct shades have been created and with all of them growing together they make a charming collection. Though greedy for food and water, they will flower very well if much neglected. To get best results, the bulbs should be thinned out occasionally; the flowers being much smaller in thick plantations.

SUPPOSED HARDY PALMS.

The writer is often asked by palm fanciers if there are not numbers of rare or little known palms which might be grown in sheltered spots in comparatively frostless districts in this state. Most certainly there is. Acanthoriza Chuco and A. aculeata should thrive if favorably situated. Some species of Bactris are quite hardy and Bacularia monostachya from temperate Australia would certainly thrive here. Balaka Seemanni from Fiji would grow if heavily shaded. A goodly number of species of Cocos, that are rare, are growing well in the open near Santa Barbara. If proper shade, protection from frost by overhanging foliage, and sufficient humidity in the atmosphere were present, our list of out-door palms could be more than doubled.

* * *

THE COQUITO PALM.

Exaggerated accounts of the value of this palm have lately appeared in a Los Angeles daily paper, and though the statement that the one mentioned was worth five hundred dollars is "way off," it is, nevertheless, a valuable palm for the California garden. It is native to Chile and known to botanists as Jubaea spectabilis (after Juba, king of Numidia). It is one of the hardiest of all our palms and a fast grower, if well supplied with water. Small plants may be obtained in the local market for one or two dollars and upward, and of late years have been planted by hundreds. There is much of interest about the palm in its native habitat. There it is also known as the wine palm.

"A full grown trunk yields about ninety gallons of sugary sap, which is boiled by the Chileans and called palm honey. There is some danger of the species being exterminated from this cause alone." In general appearance it greatly resembles the ornamental date (Phoenix Canariensis) so common throughout California. One marked and interesting difference is in the pinnae or leaflets. In Phoenix these are channelled on the upper side while in the wine palm they are channelled below. Botanically this palm is closely allied to the cocoanut of commerce and the seeds look much like small cocoanuts.

The newspaper article referred to also contained an account of Areca rubra growing here. This palm, properly Acanthophoenix rubra (from meaning "spiny phoenix,) is not at all suited to our climate and will not thrive anywhere in this State. The statement as to its rarity, "one of five in the United States," is a gross misstatement. It can be bought in the eastern nurseries.

The honey men say that there is no foundation for the prevailing belief that artificial honey comb can be manufactured. The United States Government offers $1000 for any tangible evidence that the sealed product of the hive can be successfully imitated.

LIVE OAKS STERCULIAS

Acacias

and other Shade and Ornamental Trees.

Ferns, Palms and Decorative Plants.

Choice Flower, Garden and Tree Seeds.

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Located in the Fertile Pajaro Valley. Large stock of Apple, Pear, Apricot, Peach, Plum, Prune, Cherry and Nectarine Trees. Apple Trees on resistant roots. Nut Trees, Shade Trees, Palms, Small Fruits, Roses, etc. Introducer of the Loganberry and Mammoth Blackberry. Originator and introducer of the Linda Strawberry. If you want unirrigated California grown trees—best for our dry climate—we have them.

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ROEDING TRUE TREES FRESNO, CAL.

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BOX 14 - FRESNO, CAL.

Plant Calimyrna Figs (True Smyrna Fig of Commerce), introduced by Geo. C. Roeding, Be sure seal shown here is on your trees.

CAL-IMYRNA R FRESNO

Fine Orange Trees

NAVELS

VALENCIAS

Strong, thrifty growing trees, absolutely true to name.

Covina, Cal., December 29, '03.

To Whom it May Concern: I wish to say that I have planted trees taken from the Covina Nurseries of H. D. Blanchard and can speak of them only in the highest terms. They are true to name, thrifty, strong growing stock. H. M. HOUSER.

H. D. BLANCHARD

COVINA NURSERIES COVINA, CAL.

MAYWOOD COLONY NURSERY

W. HERBERT SAMSON, PROP.

We have for sale all leading varieties of Deciduous Fruit Trees

OUR SPECIALTY:

Lob Ingir or Genuine Smyrna Fig of Commerce

A WORD ABOUT FIGS: We sell the genuine Fig of Commerce. Our cuttings came from bearing trees in the orchard of the Stanford estate, near Vina, and the fruit from these trees, after being examined by the best fig experts of the State, is pronounced the genuine Fig of Commerce, the Lob Ingir. Dr. Eisen says this and no other variety should be known as Smyrna, if the name Smyrna is to be used at all. We can refer prospective purchasers to the Supt. of the Stanford ranch, at Vina, for a verification of this statement. As to my own reliability, I can refer parties to any of the leading merchants of Corning, and to the Bank of Tehama County, and the Herbert Kraft Co. Bank, at Red Bluff, Cal. No one in the Unites States originated the Commercial Smyrna Fig. It is a variety which has been grown in Asia Minor for thousands of years. Parties may originate a fancy name and copyright it, but this does not make the fig they sell under a copyrighted name, any better. The fig we sell does not require a high sounding name to make it appear as the only commercial fig. All that we claim for our fig is that it is known as the Lob Ingir, the cuttings of which came originally from the famous orchards of Smyrna, Asia Minor, and is of the variety so largely imported into the United States in the dried state. We are not charging you for a private copyrighted name, but we sell you good 2 to 4 foot trees of the Genuine Smyrna Fig of Commerce at $150 per M. To fully demonstrate the methods used by some nurserymen in giving old varieties of fruit trees a new name and thereby make it appear that they have the only genuine article, we will say, how ridiculous it would be if we copyrighted a name like "Muro" and sold the old variety of Muir Peach under this name. Do not be misled by copyrighted names. We have the genuine Smyrna Fig of Commerce and if you want to confirm our statement, we do not hesitate to refer you to the above named parties. We can supply prospective planters a small sample of our dried figs for comparison with the so-called copyrighted figs. We also have for sale all varieties of Capri Fig trees, and all of our customers will be supplied at the proper time with a colony of Fig Wasps, free of cost. Address

W. Herbert Samson, Prop., Corning, Tehama Co., Cal.

When writing to Advertisers Please mention Cultivator

C. H. SESSIONS, ASSOCIATE EDITOR

WHY DAIRYING IS PROFITABLE.

H. E. Wright, Dairy Commissioner of Iowa, is an enthusiastic believer in dairying. He says it is the best business the farmer can follow, because it can be made to grow so rapidly, and because it takes nothing from the soil.

It adds to the soil, which betters the farm. Continuing, he adds, "all the products of the farm come primarily from the soil, or the air. If a man sells those products the substance of which comes from the soil, he is selling his farm piece meal. This is exactly what the grain seller does. The stock man and the stock feeder do the same thing to a much less degree. A dairyman sells absolutely nothing from his farm which would be of any value if left in the soil. The carbon, hydrogen and oxygen which make up butter come altogether from the atmosphere, and the man who carries on dairying sells from his farm a manufactured product and has left in his soil all the fertility that it originally contained.

Dairying is profitable because the dairyman has little or nothing invested. Iowa is a hog and cattle state. We must raise cattle, whether we wish to do so or not, and so we may say that the farmer keeps the cow for the purpose of producing the calf; and hence, the cow, in a sense, is not a part of his investment in the dairy business. All that is invested is the small amount of feed which she eats in a month or six weeks, at the end of which time he gets his return from the creamery. On the other hand, the man who raises and fats a carload of steers, or who raises a drove of hogs invests more and more in them every day for a year or two years or longer. His investment is subject to the change of prices, the disease peculiar to the animals, and other disasters. The dairyman has little invested; he has an almost immediate return from his feeds and there is little or no probability of loss in the business.

Dairying is profitable because it enables the farmer to get two returns from his cows instead of one. The farmer expects two returns every year from every kind of live stock usually kept on Iowa farms except cows. A man could not afford to keep sheep in Iowa if he did not get a crop of wool and a crop of lambs each year. A farmer could not afford to keep a mare a whole year for the single purpose of raising a colt; he makes her work for her board. We could not even afford to raise hogs in Iowa if they produced themselves only in the ratio of one to one, as cattle do, and yet there are hundreds of farmers in this state who are attempting the impossible task of getting rich from the profit arising from keeping a cow a whole year for the single purpose of producing a calf. The dairy business enables the farmer to raise just as good calves, and also to get $25 to $50 worth of butter from the cow each year."

Texas is not feeding nor raising nearly so many cattle as in the past. In fact the shortage is very marked.

THE DUAL PURPOSE COW.

The dual purpose cow is just now attracting more than usual interest among stockmen and dairymen. The idea is becoming popular at least, but whether practical or not remains to be developed. Below will be read the respective views of eminent authorities on this subject.

* * *

Until quite recently stockmen hadn't much idea that the Polled Angus cow is worth much except for beef, but a dairyman in Illinois has been keeping a record of the tests three cows make and in a letter to the Dairyman says:

"It gives us pleasure to report to you the result of a test made at our Harvard Factory, of your dairy of registered and high grade Polled Angus cows. The samples submitted by your foreman, Mr. Esmond, tested out very clear, and the samples from the four cows submitted for test on Nov. 22nd averaged 5.85% butter fat, and the samples tested on the 29th of the same month averaged 5.32%. The test made from the milk of your entire herd of grade Angus cows has averaged 4% to 4.50% butter fat for the entire season, which is one of the highest, if not the highest test, of any dairy coming to this factory.

Thanking you for your many kind favors of the past, and soliciting a continuance for the future, we are, yours very truly.—The Oatman Condensed Milk Co.

From my experience, says the correspondent, with these cows for a number of years, and from this and other reports regarding the quality of their milk, I am satisfied that well selected Angus cows are valuable for dairy purposes as well as for beef, and the quantity of milk will compare favorably with the average herd of grade dairy cows.

This fact and the other fact, that they give milk a longer season than others, are both much in their favor."

* * *

Though many attempts have been made to develop a breed of cattle profitable for both beef and milk, success in that direction has not yet been reached, and it seems more than probable that such a breed will never be secured. It is the natural tendency of every cow to use her surplus food either in growth and the accumulation of fat, or in the production of milk. Either of these tendencies may be greatly strengthened by intelligent breeding and selection, but no breed has ever been developed which excels in both beef and butter-making qualities, and improvement in either direction has usually been accompanied by a corresponding loss in the other. It is true that there are some breeds which make animals of fair size and which are also fair dairy animals, but they are only fair as either. The best beef animals and the best milking animals have never been found in the same individuals or even in the same breed, and the cattle raiser who attempts to raise beef for a living and at the same time to make money by using his cows in a dairy, is almost sure to find one branch of his business unprofitable. A profitable beef animal is one thing, while a profitable dairy cow is something quite different. The man who expects to make his living from a dairy should select the breed which will give him the greatest amount of butter and milk from the smallest number of animals at the least cost.—S. M. Tracy, in Creamery Patrons' Handbook.

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The Sharples Dairy Tubular Cream Separator

1904

Is the highest standard of excellence. Does its work more thoroughly and gives the best satisfaction. On the market 20 years. Endorsed by leading dairymen everywhere. More profitable to use, more trustworthy than any other machine. YOU can depend on the work of the

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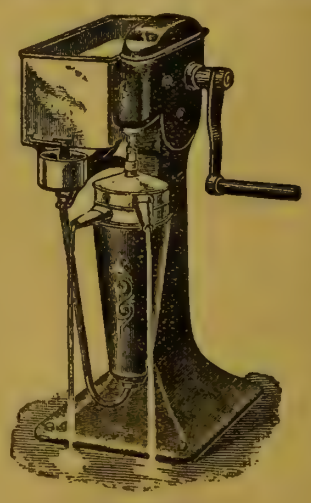

Tubular Hand

It never disappoints. It separates ALL the cream. And behind it has our guarantee. Easy to work; easy to fill; easy to keep clean. No complicated parts whatever. No discs. No oil cups.

Remember all this. What other Separators do, we care not. When you get a Dairy Tubular Cream Separator, you have the best machine of the kind; this is a positive fact. Correspondence solicited on

Are you interested? If so, cut out this coupon and mail today,

W. E. HYER & CO., 108 N. Los Angeles St., Los Angeles, Cal.

Send me full particulars about your Dairy Tubular Cream Separator.

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Creamery, Dairy and Poultry Supplies

Write today for our new catalogue, with price list for 1904

W. E. Hyer & Co.

Sole agents for Southern California

108 N. LOS ANGELES ST., LOS ANGELES, CAL.

HOW TO DRESS CALVES.

Calves from 3 to 6 weeks old, and weighing about 100 pounds, or say from 80 to 120 pounds, are the most desirable weights for shipment. The head should be cut out, so as to leave the hide of the head on the skin. The legs should be cut off at the knee joint. The entrails should all be removed, excepting the kidneys; the liver, lights, and heart should be taken out. Cut the carcass open from the neck through the entire length—from head to bumgut. If this is done they are not so apt to sour and spoil during hot weather. Many a fine carcass has spoiled in hot weather because of it not being cut open. Don't' wash the carcass out with water, but wipe out with a dry cloth. Don't ship until the animal heat is entirely out of the body, and never tie the carcass up in a bag, as this keeps the air from circulating and makes the meat more liable to become tainted.

Mark for shipment by fastening a shipping tag to the hind leg. Calves under 50 pounds should not be shiped, and are liable to be condemned by the health officers as being unfit for food. Merchants, too, are liable to be fined if found selling these slunks, for violation of the law. Heavy calves, such as have been fed on buttermilk, never sell well in our market—they are neither veal nor beef.—Chicago Trade Bulletin.

VALUE OF ANGORA GOAT.

A subscriber writes to ask about the Angora goat, as to its value and feeding qualities. We have had but little experience with goats but what we have had, have found them to be exceedingly profitable stock to keep. We quote here from an authority on this subject, which answers the questions propounded by our subscriber.

"Goats are browsers by nature, and there is no vegetable they will eat in preference to leaves and twigs of bushes. They are omnivorous eaters and seem particular to avoid that character of vegetation which other kinds of live stock prefer. Every leaf and every twig within their reach is greedily eaten, even to most of the bushes and weeds that are considered poisonous to other ruminants, while remarkably few weeds are passed by. They will desert the finest clover and blue grass for such an outlay.

The inherent tendency to climb leads them to hillsides and rocky cliffs, and they prefer such situations to any of a level character. Here nature meets their necessities by dwarfing the bushes so they may be browsed easily. The soil is quickly drained in the event of rain, for they do not like wet land; and the stones serve to keep the feet trimmed properly by the wearing process. This is the situation that the goats would choose, but the farmer might choose to turn them into a dense mass of brush and weeds anywhere, and they will convert it into a beautiful pasture. After the removal of trees in clearing land the persistent growth of shrubbery becomes a problem not solvable by the brush-hook or the ax—but the goat.

Besides their value for subduing brush, the goats are of value for their mohair and meat. They thus become one of the farmer's important tools.

Pasturing—Much better growth is made and the quality of the fleece improved where browsing supplements pasturing. The flavor is imparted by the browse, and is absent in the mutton made from grass or grain. The mutton should have the flavor of venison.

So far as the goats themselves are concerned, they may be kept in the pasture where there are sheep, cattle and horses. Their presence is in no way obnoxious to these animals. A few of them in a flock of sheep are a protection against dogs. However, it is best for the goats that they are kept from pasture with horses, as the latter will chase them, especially the kids. Hogs are liable to eat the kids.

Number of Goats to an Acre—One acre of good brush will furnish twelve goats all they want for one summer. We would regard this as heavy grazing, but if you want goats to clean up brush, you must put on plenty of them, from six to twelve per acre, according to the quantity of brush available.

DAIRY EDUCATION PAID.

Dairy Commissioner McConnel of the state of Minnesota make the statement drawn from careful investigation that the butter production of that State has increased in the past twelve years more than 100 per cent per cow. This would have never happened, says Hoard's Dairyman, without the constant agitation of the minds of the Minnesota farmers on this dairy subject.

TO BREAK THE TRUST.

The National Live Stock Association which concluded its convention at Portland last week, resolved to incorporate a company of live-stock men for the purpose of establishing independent packing-houses in the stock centers of the country, to compete with the packers' combine and restore prices on live stock, was the all-absorbing topic of discussion in the national live-stock convention today. By unanimous vote the convention indorsed a resolution favoring the incorporation of such a company and the establishment of the independent houses. Steps will now be taken to raise stock subscriptions to the amount of $5,000,000 for the purpose of capitalizing the corporation and placing it upon a financial footing.

It was an undisputed fact that the decline in the value of beef animals during the past eighteen months amounts to more that $3 per hundred; hogs, an average of $5 per animal, and sheep from 75 cents to $1.00 per head. Consumers, however, are paying the same price for their meats. As the demand for meat products is as great as ever, and there has been no material increase in the number of head of livestoc.., these conditions are uncalled for, and the only apparent reason is the unjust manipulation of prices at market centers, assisted by the lack of knowledge on the part of producers as to the visible supply.

Much time was devoted to the consideration of live-stock conditions in the various states. The burden of the report of each speaker was that while conditions of the market and range are not what they would like to have them, yet the live-stock industry is in good condition. Indications point to improvement in the future.

The other principal topic discussed was the policy which has been adopted by the Interior Department regarding forest reserves, particularly to the segregation of vast areas of grazing and agricultural lands as a portion of these reserves, and the issue of orders excluding livestock from grazing thereon. On this subject opinions were very pronounced and the convention was emphatic in its objections to the propositon to do away with the public range.

The action of the convention will probably have little weight with the Secretary of the Interior, who is backed by the President in his effort to compel compliance with the law on the part of all stockman now appropriating the public domain.

PROFITABLE WEED DESTROYERS

Prof. Kennedy of the Iowa experiment station says there are 600 kinds of weeds and grasses growing in the agricultural states, and of these sheep eat 550, horses eat eighty-two, and cattle eat fifty-six. He says sheep relish most weeds and do well on them; therefore every farm of a quarter section should have a flock of at least twenty-five sheep to help keep down the weeds, and that small flocks pay their way on most farms in this manner.

The cattle owners of Arizona, which Judge E. R. Munk and J. J. Vosburg, both of this city, belong to, have organized an association looking to the better protection of their interests in the territory.

A pig's tail is said to indicate unerringly the condition of the animal. If it hangs loose, it shows that the pig is not well and that its food should be changed; if it is coiled tightly, the pig is healthy and happy. Have you ever noticed this?

One advantage in keeping goats on the farm is that wherever they are kept the farm presents a neater and cleaner appearance. Goats rightly managed can be made to aid the farmer materially in ridding the land of noxious weeds.

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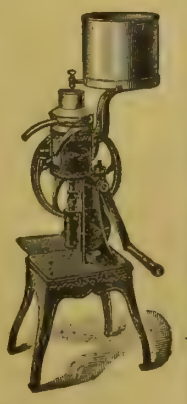

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LARGE OR SMALL DAIRY COW?

The large dairy cow is now the subject of much discussion in the butter making sections of the country. The reasons given favoring the large cow over the small one are many. They may not apply as well to California conditions as to other sections, and yet we are told that many dairyman in this State are drifting into the larger type of butter making cows. The article published on this subject this week will be of interest. It is founded on the experiments made at the Wisconsin station.

* * *

No act of congress has been of greater advantage to the farmer than the act establishing and aiding the State experiment stations; and no special work done by these stations has been of greater importance than that done in the interest of the dairy farmer. It is less costly to learn at another's expense than at one's own; and by giving heed to the disinterested, nonpartisan work done by the stations, the dairy farmer may save himself much bitter disappointment, and not be misled by following the false teachings of certain dairy writers and breed partisans. As its most valuable work in this line, the Wisconsin experiment station has recently issued bulletin No. 102, entitled "Studies in Milk Production." The present Wisconsin experiment station herd was established in 1898, and the bulletin covers the work of this herd for a period of four and one half years.

In order to make comparisons of results on a basis of type, the herd was divided into three classes—the small dairy, the large dairy and the dual purpose type. The men making this division were Messrs. F. H. Scribner, breeder of Jerseys; Charles L. Hill, breeder of Guernseys; George McKerrow, breeder of Shorthorns, and W. B. Richards, assistant in dairy husbandry at the station.

Pasture was figured at $1.50 per month, and other feeds at average Wisconsin market prices; while the butter was figured at 20 cents per pound and the skim milk at 15 cents per 100 pounds. The butter was computed on the basis of 85.7 per cent of one pound of butter fat in the milk equivalent to one pound of finished butter—usually known as adding one-sixth to the butter fat, and the standard now used by the Holestein-Friesian and Guernsey associations in their official records made under the supervision of the experiment stations.

The Large Type Preferred.—The conclusions reached, as a result of the most painstaking work through a period of almost five years, in which all the food given each animal was weighed, and each treated as though she alone were on test, confirm my teachings of twenty years past, that the largest type of dairy cow is more profitable for the dairy farmer. Space will not permit me to give as much as I would like; but, as conclusively in favor of the large dairy type, of which the Holstein-Friesian is the best exponent, I quote the following:

"From the data presented it will be seen that, everything considered, cows in group B, representing the large dairy type, are clearly in the lead for economic production of milk and butter fat. The results of over four years' work with cows of the extreme dairy type, represented in group A, not only failed to establish the claims for the superiority of cows of this type over a much larger and apparently stronger dairy type, but clearly showed that they are not as large producers, nor as profitable dairy animals, as the latter.

"That the extreme dairy type has been popular, at least in this State, is evinced, among other reasons, by the fact that three of the cows selected for the university herd at our solicitation by prominent dairymen in our state were fair representatives of this type of cows, and are included in group A. Our investigations have been conducted under the most favorable conditions possible for this type of cows; the stable in which they have been kept is considered a model one, as regards cleanliness, light, ventilation, and general comfort of the animals, and water is provided for them in the stalls so that they are not exposed to inclement weather at any time.

They are given the best care and attention at all times, being fed liberally, kept during the hot summer months in the cool, darkened barn, protected from sun and flies, and are fed various green feeds and grain in summer, as well as protected from cold in winter."

"In view of the ever increasing demands on the part of dairymen for cows that will have endurance and ability to withstand diseases, as well as great productive capacities, we do not hesitate to state that, in our opinion, it is not the part of wisdom for our dairymen to select the small, refined cows with a spare habit of body in an extreme degree as the most desirable type of dairy cows.

The Farmers or Dual Purpose Type.—Neither is it the part of wisdom for th dairyman, as such,to select cows of a type similar to those in group C, representing the dual purpose type, and to expect the greatest profit from them in the production of milk and butter fat. For the dairy farmer the large type cow will, we believe, everything considered, be found the most profitable. In view of the results obtained with the different groups, it is apparent that cows with the greatest capacity for consuming rough feed are generally the most economical producers. This may be accepted as a fundamental characteristic of all cows capable of large and economical production in the dairy."

The station's comparisons by breed are striking, and, as usual, the Holstein-Friesian breed is found to excel. Indeed, it seems that, with fair representatives, this great breed will always win in any net profit consideration, where both the butter-fat and skim milk have values signified. The average results of the breed comparison are as follows:

Annual	Holstein	Guernsey	Jersey	Shorthorn
Milk yield	9,987.3	6,530.7	5,700 2	7,121.4
Fat Yield	351.6	319.4	301 1	28 7
Prod. value	$94 03	$82 31	$77 10	$741.26
Feed cost	45.46	37.37	35 22	38.17
Net Profit	48.47	44.94	41.88	36.09

A careful study of this table will show the dairy farmer that it is not the cow that gives the richest milk, but the cow which produces the largest amount of butter fat, that wins out. During all those years, and for all their milk taken in bulk, the average for the Holstein-Friesian milk was 3.52 per cent fat, while the Jersey average was much higher; yet we see that the Holstein-Friesian averaged annually over fifty pounds more of butter fat for each cow than did the Jerseys.

A Surprising Contrast.—But this table does not tell the whole story; the Wisconsin station had even better grounds for deciding in favor of the larger, hardier, more vigorous cows. If a farmer went into the dairy business for five years he would take account of stock at the beginning and at the end of the specified time; and if he found that the herd had increased or decreased in value he would take such increase or decrease into consideration. The Wisconsin station did not do this because it was making a study of milk production only; but it gives a resume of each cow, and we can follow it out for ourselves. The Jersey list reads like a column of obituary notices. Out of twelve cows, one died of congestion of the lungs, one of bronchitis, two were got rid of because of loss of part of the udder from garget, two because found tuberculous, two because such delicate feeders as to be unprofitable, and one because of lack of constitutional vigor and dainty appetite; only three left out of twelve, and they not the best.

The hardy, vigorous Holstein-Friesian cows furnish a surprising contrast to this list. One did so well that a California breeder purchased her last summer and took her to California. The rest are there and still doing business at the old stand, though there is one that Holstein-Friesian breeders would no doubt be glad to get if they could. This is Alma Marie Josephine, who at 3 years old made a record of 18 pounds 5.8 ounces of butter from 400.3 pounds of milk, showing an average for the seven days of 3.77 per cent fat in the milk. The net profit for the one week was estimated at 2.72.

The main deduction which the thinking dairy farmer must draw from the exhaustive work shown in this bulletin is that for the greatest net profit he needs cows of the Friesians; for not only do they give a larger net profit, but by reason of their hardiness and great vitality, the large vigorous Holstein-Friesians thrive on work which will break down and destroy the weakly constitutions of the small, delicately formed Jerseys.—Malcolm H. Gardner, in Farmers' Sentinel.

KINDNESS TO THE COW.

If you expect your cow to do well and yield milk of the best quality and greatest quantity you must treat her kindly. This has been shown by actual experiments made for the purpose of determining the difference in the yield of milk both as to quality and quantity in cows carefully handled and those less kindly handled by milkers.The cow is a nervous animal, susceptible to kind or harsh treatment. Both the amount and quality of the milk she gives depends on her preference for the persons with whom she has to deal. Following up the theory a rigorous experiment was tried on a farm in Essex. Four cows were tried with four different milkers. The favorite milker was honored with nearly nineteen pounds weight of milk one morning, while another less favored only got a trifle over fifteen pounds the next morning, while another cow which had yielded badly the first morning increased her supply as well as the quality the second morning, with the change of milker.

DAIRYING EXPANDING.

The dairying interest of this country is expanding, as might be expected, so that at present we have 17,105,000 milch cows, the value of which is put at $517,000,000. The valuation put upon all other kinds of cattle in this country is said officially to be $824,000,000; the number of cattle put against this part being 45,000,000.

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles.

WORMS.

Editor Cultivator: I have a good work horse that is troubled with worms (some are short and called by some pin worms, others very long, from four to eight inches. I think they are stomach worms.) The animal is poor in flesh and does not seem to pick up any, no matter how carefully I feed and care for him. Will you please give formula for remedy for same and oblige.—Subscriber, Los Gatos, Cal.

Give 9 drams aloes in ball after treatment. Bi-sulphate iron pulverized, 4 oz.; gentian powdered, 4 oz.; arsenis acid, ½ oz. Give desert spoonful twice a day.

* * *

Editor Cultivator: I have a colt which is troubled with worms in the bowels. It occasionally passes short flattish worms, and also long round ones, pointed at both ends. Appetite is good but condition poor, and is constantly scratching. Please give remedy. —Subscriber.

Give one pint of raw linseed oil with two oz. of turpentine in one dose. Follow with half dram doses of santonine for five mornings.

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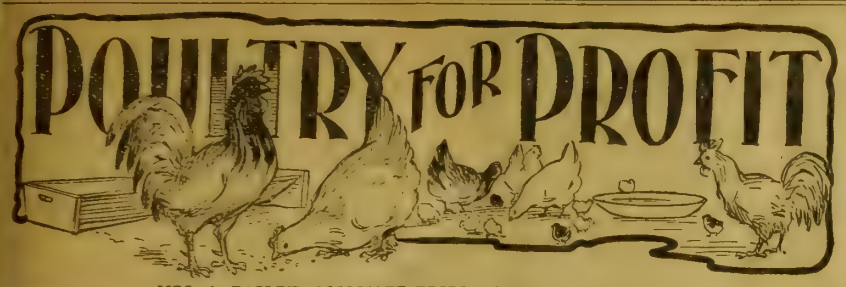

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

TURKEYS.

"I have made more money with turkeys," said a friend in Covina to me last week, "than with any other stock." This was interesting information and reminded me that the turkey is called "the farmer's fowl" in the East. It really should be the farmer's wife's or daughter's fowl, for to them belong the poultry on a farm.

Turkeys are indigenous to America and can be raised in every State of the Union, but in some States such as Kansas, Missouri and Oklahoma, there are still quantities of the original wild turkeys, but I am sorry to say, like the buffalo, they are rapidly becoming extinct. I have lived in the land of the wild turkey and there more than anywhere I learned how to care for the tame turkeys.

* * *

There is no doubt that turkey-growing on a small scale is more profitable than any other branch of poultry culture; I mean the income from turkeys comes easier than from chickens. The little turkeys hatched in the spring and early summer are ready for market by Thanksgiving and Christmas, and bring in ready cash just when one wants it most. I know a farmer's wife living near me who always tries to have a hundred turkeys ready for Christmas, these bring her in a clear two hundred dollars. Exclusive turkey farms, such as the duck and chicken farms in the East, are unknown in California, and even in Kansas, where both turkeys and chickens seem to grow without care, they are usually raised on the same farms as they forage farther away than the chickens and rarely among them.

* * *

Turkeys do not require warm houses, even in the East, but they must have shelter from the rain even in California, and it is wise to be prepared for such contingencies, by having a shed with high roosts in it, where the turkeys can be shut in when the rain comes; this will save the keeper from extra work under disagreeable conditions. The turkeys themselves will often seek the shed before a rain storm. I have one wise mother turkey who always before a heavy fog in the summer comes up to the woodshed and pleads plaintively for an open door, leads her little flock into shelter, whilst on bright nights they go to their pen, and sleep outside. She knows when the heavy mist, or fog from the ocean is coming, when I have not such intelligence.

* * *

Turkeys in their wild state are not very prolific, rarely laying over ten or twelve eggs. Tame turkeys of most strains usually lay only fifteen to eighteen in the first litter, and as the hens lay so few eggs, it is the common practice not to allow them to sit until they have laid two litters of eggs. To avoid breaking and also to induce them to lay longer, the eggs are removed from the nests daily, and if there is danger of the turkeys deserting their nests because of the removal of the eggs, a few hens' eggs may be placed in the nests.

The hen turkey usually begins laying in March or April in the Middle States, but the period varies with the latitude, and here they frequently commence in January and February, according to the season. With my turkeys I find it best to yard them for a time before they commence to lay. I fix coops, boxes or barrels for them to lay in, with clean wheat straw in them, and place them in corners or partially concealed places. Or, when the turkeys cannot be confined to yards, I try to persuade them to choose a box or barrel near the house, and if they seem inclined to wander off, I prevent them until they have once laid in a nest, when they will seldom desert it.

* * *

The natural methods of hatching and brooding are used almost exclusively in turkey raising. I have had very good success by hatching the eggs under chicken hens and raising the young turkeys in a brooder, and I have also raised them under hens, but I prefer the turkey mother. If tame she is exceedingly gentle and quiet with them, lifts her feet slowly and never treads on her babies; she does not wean them too early and protects them from hawks, cats, etc., whilst a good motherly hen is restless and fussy and keeps the young ones too much on the move at first, just when they need rest and warmth and when they should be kept very quiet. On this account I usually take the little turkeys away as they hatch, wrap them in flannel and keep them in a warm, quiet place, then if I have brooder room, I give them a brooder, otherwise I return them to the hen when I have fed her, and I shut her up with them in a dark place to keep her quiet for thirty-six hours.

* * *

The period of incubation for turkey eggs is twenty-eight days, occasionally prolonged to thirty days. As the eggs are almost always fertile, testing is not as necessary as with hens' eggs, but they can be tested in the same way.

When hatching under a turkey hen I usually leave her alone until all are hatched out. A turkey hen can cover from fifteen to twenty eggs, and it is best to set her on the nest in which she has laid, although if very tame she can be moved to any place; this should be done after sunset. A chicken hen cannot cover more than nine turkey eggs. The hens should be well dusted with insect powder every week during incubation to keep them clear of lice.

* * *

The young turkeys will not eat for twenty-four to thirty-six hours, and no food should be offered to them the first day. The mother must be fed. If the nest in which the little turkeys are hatched is so situated that I can put a small pen in front of it I leave them there for a few days; if not I move them to a suitable place. I use the same panels of chicken wire tacked on to six foot long laths for turkeys as I use for little chicks, and keep the turkeys confined in these small pens till they are about two weeks old, moving the pen if the ground becomes soiled until they have "sported the red." This is the trying time of a young turkey's life, something like teething time with babies. All one can do is

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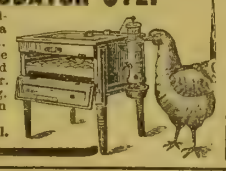

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Only Birds that have
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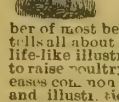

and ALMANAC for 1904
There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
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Have just received another carload of
GENUINE
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$3.75 per 100 lbs. Special quotations on quantities.
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Albers' Black Minorcas
Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.
EGGS COCKERELS CIRCULAR
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500 CHICKS $4.00 **Four Dollars** $4.00 500 CHICKS
WORTH OF
Croley's Dry Mixed Chick Feed
Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.
25-lb. Sack for 125 Chicks $1.00 — 50-lb. Sack for 250 Chicks $2.00 — 100-lb. Sack for 500 Chicks $4.00
Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.
Geo. H. Croley, Poultry Supplies
508 SACRAMENTO ST., SAN FRANCISCO, CAL.

to keep the turkeys warm and dry, After two weeks, if mothered by the turkey hen she may be allowed to range with them, but a chicken hen must be watched and if she wanders too much I either confine her to the coop or tie her by her leg to a tree. Grit and charcoal must be provided. Lice must be fought just as on little chicks. I never use grease on little turkeys but use buhach or insectonos. Lice and overfeeding cause the death of thousands of little turkeys.

Look for lice between the quill feathers of the wings and rub some good insect powder into them. Do not grease little turkeys, grease is very apt to kill them.

* * *

When I lived in the home of the wild turkeys I learned a great deal that was new to me about feeding little tame turkeys. One thing was to feed them very little, almost starve them and they will grow bigger and stronger than if you over feed. I was also told never to feed corn until the turkeys were big enough to eat whole corn, because it would sour on the little ones' stomachs. I have since found the reason for this, the corn (either cracked corn, or corn meal) does not get softened in the crop, but goes directly into the gizzard, in its hard state, and before the gizzard has time to grind it up, ferments or sours, bowel trouble ensues, and the little turkey dies. So I never feed cracked corn.

* * *

Before giving the little poults to the mother hen or turkey, I dust them well with insect powder, and I go over them at least once a week for lice until it is impossible to handle them, this is when they are about six weeks or two months old. The first food I give the little poults is coarse sand or fine grit. When they are twenty-four hours old I put fresh laid eggs in cold water and let them boil twenty minutes, chop them up finely, shells and all, add equal parts of dry bread crumbs and feed dry what they will eat, taking away what they leave and feeding the mother separately.

The next day I give them egg chopped up with lettuce, dandelion and onion tops cut fine for breakfast, a little curd made of sour milk for dinner and for supper the same as breakfast with curd added; in a few days I give them cracked wheat and steel cut oat meal, also milk to drink, but I never leave either milk or water where they can get themselves wet with it. Turkeys young and old do well if they have milk, sweet, clabber or curds. This feed makes up their bill of fare, with what they can pick up and in California add some meat to their rations. In Oklahoma and Kansas they get all the animal food they require with the grasshoppers and insects, coming home at night with their crops simply crammed full of them.

I am very careful to give the poults green food if they cannot range on grass, and every day I give them an onion chopped fine and after the first week I add cracked wheat and by degrees whole wheat to their egg and bread crumb, so as to accustom them to grain.

The great temptation is to over-feed, as they are very greedy little things, and so tame they follow one round, fairly begging for food. When I cannot resist their importunity I throw them a head of lettuce, which will keep them busy and amused until I escape into the house.

* * *

I know that lice and over-feeding are responsible for the great mortality in little turkeys, and the trouble is that if they are over fed at first they will grow so fast and seem so well that one will begin to think it was all a mistake about over-feeding, that they can eat as do chickens or ducks. They may when full grown, but with the little ones, until they have "sported the red" they must eat a little at a time, and must exercise to make their food digest. It is a curious fact that overfeeding stunts them. If you open those that die you will find the liver spotted, this indicates a diseased liver. Mrs. Jones, an expert turkey grower in the East, writes:

"What causes a diseased liver? Too much work. What causes the liver to do too much work? Too much blood to strain. And what makes too much blood? Too much food and not sufficient exercise. This in a nutshell is the cause of so many turkeys dying.

They grow so fast and have voracious appetites. If the food is set before them they will eat it instead of hunting for it and it takes from only four to six weeks for them to eat themselves into their graves. If they hunt for their food, they take it leisurely. The digestive organs are not hurried. They take just what nature requires and can digest, and just enough goes into circulation to keep them in perfect health, strong and vigorous.

* * *

The Standard recognizes six varieties of turkeys, the Bronze, which are the largest; the Narragansett, in color are grey; the Slate color, Buff and Black, and the White Holland.

The Bronze are the favorites on account of their immense size, the first prize gobbler at the Los Angeles show last month weighed fifty-four pounds; quite a meal for a family. The White rank next to the Bronze in popularity; they are smaller but very delicious eating, and dress beautifully, having no dark feathers.

I prefer them to the other varieties and still keep them—they lay more eggs and do not wander far, always roosting near the house and so are not as apt to fall victims to nightly marauders as the other kind. They are very vigorous and healthy and I rarely lose a young one except by accidents, three drowned themselves in the wash tub, and five had their heads crushed in a door. The White Holland bear confinement better than any other that I have kept, they appear more domesticated than the others, further removed from their wild ancestors.

Turkeys hatched from now to July will be ready for Thankgiving and Christmas.

I think I have answered every question asked me about turkeys.

It is a pleasure to me to answer letters through the Cultivator, especially when those I try to help write me that my suggestions were fruitful of good results. It saves me many hours of work for when I answer in the Cultivator it is letting the whole country know it. I have never seen a greater news bearer; it scatters news broadcast over the whole earth. As sure as you put anything on the pages of the California Cultivator you will hear of it again.

* * *

A correspondent from Tropico asks, "What are the 'mushroom' houses mentioned in Mrs. Basley's article?" My mushroom houses are small houses standing on legs about six inches above the ground; they are about six feet long by three feet wide and will hold easily a dozen hens or twenty-five chicks. I think they are called "mushroom" because they stand up above the ground, or because they are quickly made. They are perfectly tight all round and the roof, all the ventilation being from below. The air passing over the droppings carries away all smell, and the house is always sweet and pure. In the Cultivator of April 25th, 1903, I gave directions for making these houses.

JUBILEE INCUBATORS

The "Business" Machines of the World
Use the Jubilee—There is every reason why you should and no reason why you should not.
We make them in sizes from 60-eggs to 1056-eggs capacity—Every one perfect. If you are interested in poultry for profit send for the Jubilee Catalogue No. 30.

JUBILEE INCUBATOR CO. OAKLAND, CAL.

The Real Thing

For Healthy Chicks

Chamberlain's Perfect Chick Feed

The World's Chick Feed of Today.
Price—1 lb., 5c; 50 lbs, $2.00; 100 lbs., $3.25

If You Want Your Hens to Lay, Feed

Darling's High Protein Beef Scraps

We Buy in Car Lots. Price—1 lb., 5c; 50 lbs., $2.00; 100 lbs., $3.75

Our Poultry Catalogue Mailed Free on Application.

GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Food

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal

AMERICAN WHITE PLYMOUTH ROCK CLUB MEMBER

Winning White Plymouth Rocks

Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.

Yards closed Sundays. Send for illustrated circulors.

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

White Leghorns AND Barred Rocks

The leading varieties and the best of each. My fowls are good size, standard color and have the best of qualifications throughout. They are standard bred and utility bred. They have proven their superiority in the show room and as breeders. They have taken first premiums wherever exhibited. Over fifty premiums in the last four years. Motto: First-class stock and eggs at reasonable prices. Send for illustrated circular giving show record and prices.

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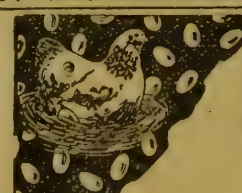

100 Per Cent. Hatched.

In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with

PETALUMA INCUBATORS.

This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.

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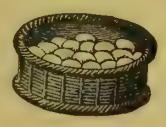
MIDLAND POULTRY FEED

Will make your fowls moult in one-half the time, which means they will lay that much sooner. "Laying fowls are paying fowls." You will not be disappointed at the results you get from feeding Midland Feed.



No. 4, Egg and Feather Producing Food

Is what you should feed your hens now, and the results you get will surprise you, for we know it will prove a paying investment. Our book, "The Science of Poultry Feeding," will tell you more about this feed. Send for it. It is FREE. Also

No. 1, Nursery Chick Food
No. 2, Growing Chick Food

We will be pleased to give you further information about this feed if you wish it. WRITE FOR PRICES.

The Only Reliable Balanced Ration for Poultry in the World.

These special foods are composed of the very best materials obtainable and as carefully and accurately mixed as it is possible to make them. They are a COMPLETE FOOD and will produce specific results, each for its purpose, and no other. We want you to become an established customer of ours. We want your trade, be it little or much. There is only one way we can secure it and that is by sending you material that will do what we claim for it.

The Midland Feed will cost you very little more than any good grain you now feed, and no more than you now expend for all the extras you must use in addition to your grain, and the results will be so far in excess of any previous experience you have had that you will readily acknowledge its value.

What the poultry man must be able to count on to a certainty is RESULTS.

The following buy in Carload Lots and act as our distributors in their respective localities, supplying the dealers and consumers:

FREDERICK BROWN, San Jose, Cal.
KUTNER GOLDSTEIN CO., Fresno, Cal.
P. C. FREDERICKSON, Fruitvale, Cal.
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PETALUMA ROCHDALE ASSN., Petaluma, Cal.
PHOENIX MILLING CO., Sacramento, Cal.
HENRY ALBERS, Los Angeles, Cal.
LUBBEN BROS., Alameda, Cal.
PORTLAND SEED CO., Portland, Ore.
SANTA ROSA ROCHDALE CO., Santa Rosa, Cal.
GEO. P. McNear, Petaluma, Cal.

Petaluma Incubator Company

Pacific Coast and Trans-Pacific Agents

Main Office and Factory, Petaluma, Cal. Eastern Office and salesroom, Indianapolis, Indiana.
San Francisco Office and Salesroom, 33 Market Street.

General Agriculture

CRUDE OIL FOR PEACH BORERS.

Editor Cultivator.—In regard to the use of crude oil as a remedy for peach-borers I can say that D. B. Pickering of Santa Clara, Cal., has tried a crude oil of asphaltum base for two years and has been able to kill and keep out the borers from his trees. This work has been done on young trees which shade the ground well and which are growing in adobe soil, which is considered a cold soil. What we can do in sections, which are termed the warm belt and where the soil varies from a gravel to red chemise soil, we cannot now say. Whether or not these warm soils have any influence on the oil which would cause it to be absorbed by the bark and do injury, will be known this coming season, as a great many growers in every section are trying a few trees with crude oil and have promised to keep a record and report. The party to whom you refer as killing 500 trees, I am told used a distillate oil which was used as fuel for a gasoline engine, probably of a paraffine base. I am very glad indeed that you will have an article on crude oil and the different distillates and I believe it would be well to have some one give some information in regard to the emulsions of crude oils with soap, caustic sodas, etc, etc, as very little is known about these matters.

If crude oil of an asphaltum base can be used below the surface line without damage to the tree, it will be a great remedy and a great saving to the fruit grower. The fact that crude oil causes most of the borers to leave the bark, will obviate the tedious digging out with the knife, which is so expensive.

I am sorry that I am unable to give you more information or data on this subject.—Edw. M. Ehrhorn.

RELATION OF SOIL TO CROP PRODUCTION.

The bureau of soils of the department of agriculture has just issued a bulletin, No. 22, entitled, "The Chemistry of the Soil As Related to Crop Production." The bulletin represents the work of Milton Whitney, chief, and F. K. Cameron. It discusses the influences of climate, texture of soil, rotation of crops, variety of plants and commercial fetrilizers on production, and concludes with a number of deductions, the most noteworthy of which is the statement that practically all soils contain enough plant food for the production of good crops, and that there is no evidence that this supply will ever be exhausted. The investigators say "that the actual yield of plants adapted to the soil depends mainly, under favorable climatic conditions, upon cultural methods and suitable crop rotation, and that a chemical analysis of a soil, even by these extremely delicate and sensitive methods, will in itself give no indication of the fertility of this soil or of the probbable yield of a crop, and it seems probable that this can only be determined, if at all, by physical methods, as it lies within the domain of soil physics."

CARE OF CELERY.

No vegetable, with the possible exception of the tomato, has made such progress in public favor as celery. We can remember when a few heads or bunches were sold at high prices and then purchased only for special occasions and by the wealthy. Now it is almost daily in use by the public. There are many reasons for its popularity: Two of these are, for us sufficient to name, its healthfulness and its usefulness. As a tonic it is considered a powerful nervine. It is prized for its cleaning and purifying effects upon the system. Used as an appetizer with a pinch of salt, it is a welcome addition to almost any dish. For any occasion its beauty adorns the table. The average farmer, to a surprising extent, has come to recognize these facts and such can and should have as good as there is going. Thus, from a luxury, celery has become a necessity—almost a regular feature of the noon-time meal.—J. P. Roe in Farmers' Sentinel.

TO KILL BERMUDA GRASS.

There is no end to the inquiries, says the Chronicle, how to kill Bermuda grass or Johnson grass or other plants with powerful root systems which have got into the orchard or garden. There are two ways and no more. The first is to get every particle of the root out of the ground. If there is a joint an inch long it will start the whole business over again. This method may be economically possible when there is not more than one or two bunches to be dealt with. The other method is by the use of any convenient tool to prevent a single leaf of the stuff to show above ground for more than twenty-four hours. This treatment, kept up for about two seasons, will usually make an end of the grass. Where it does not it is because some leaves were overlooked in the ministration.

CALIFORNIA RAISIN CROP.

The raisin industry in California dates back about thirty years, as raisins were first produced in a commercial way in 1873. Since that time the increase has been remarkable, for today there are upwards of 3,000 individual growers cultivating about 90,000 acres of vines as their only source of income. The average annual yield of grapes is about 300,000 tons, of which 150,000 to 175,000 tons, in favorable seasons, are cured annually and made into raisins, the balance marketed as table grapes, and made into sweet wine and brandy.—Exchange.

THE ONION CROP.

The total production of onions in the United States for 1903 is estimated at 3,000,000 bushels, being a little less than that of 1901. The yield in 1902 was something over 3,800,000 bushels for the entire United States. In 1899-1900 the banner yield of this vegetable was produced, the crop being over 4,500,000 bushels.

CALIFORNIA BEET ACREAGE.

The area of land devoted to the culture of sugar beets in California is approximately: Ventura county, 21,000 acres; Santa Barbara, 7,700; Alameda, 5,400; Orange, 4,800; Los Angeles, 4,600; Solano, 4,400; San Bernardino, 4,000; San Benito, 4,000; Contra Costa, 2,500; San Luis Obispo, 1,700; and Sonoma, 1,000.

CUT BIG RANCHES INTO SMALL ONES.

The California Promotion Committee is advocating the cutting of large holdings in this state into small ones. Discussing the advisability of this move a member of the committee said, last week:

"I believe the division of large holdings into tracts which will invite colonization by men of limited capital is the most important step in the development of agricultural California. William Henry Hershey, an expert Swiss cheese maker, who states he has a family of eighteen children, is now in San Francisco waiting to get a dairy. He wants a small tract. We are constantly receiving demands of a like nature from other settlers.

"If the large land owners will all divide their tracts and announce that fact these men will get what they want. The California Promotion Committee has heard from about fifty owners that they will do this."

For Sale---Two Acres

In Whittier, joining Mr. A. R. Rideout's Dewberry Patch. Strictly frostless. Cheap water. Easy terms. Address

Lock Box 472, Whittier, Cal.

SEED POTATOES
500,000 BUSHELS FOR SALE CHEAP

Largest seed potato growers in the world!
Elegant stock. Tremendous yields. From 400 to 1000 bushels per acre.

FOR 10 CENTS
and this notice we send you lots of farm seed samples and big catalogue, telling all about Teosinte, Speltz, Peaoat, Aerid Land Barley, Macaroni Wheat, Bromus, Earliest Cane, etc. Send for same today.

JOHN A. SALZER SEED CO. LA CROSSE, WIS.

FERTILIZE YOUR TREES

Write today for Free Circulars describing process of preparing Sheep Manure; gives results obtained from its use, and proofs of economy.
Nature's best gift to impoverished soil.

Geo. C. Roeding,
Box 14 Fresno, Cal.

Oranges
The quality and flavor of the fruit depends upon

Potash

Oranges absorb large quantities of Potash and the orchard should be replenished by a complete fertilizer rich in Potash.

Soil culture is a scientific problem. Our books giving full details will be mailed free to any farmer who writes for them.

GERMAN KALI WORKS, 93 Nassau Street, N. Y.

Meyer Wilson & Co., San Francisco, Cal. are sole agents for the Pacific Coast.

Grocery fakers are selling farmers spurious goods in some parts of the state. Beware of them.

Our Sales in 1903 Over 3,000,000
Try Them—We Guarantee Satisfaction

Price Standard Size, $17.50 per M.
A cheap, effectual and permanent method of propping trees
Cheaper than driving staples in the limb, and no possible damage to tree.
Cheaper than boiling rope, because permanent.
Samples Free to Orchardists
Hoyt Tree Support Co.
WATSONVILLE, CAL.
Or R. M. Teague, San Dimas, Cal.
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TREES
APPLE PLUM
CHERRY PRUNE
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SEEDS Vegetable, Flower, Farm and Tree **SEEDS**
UTAH ALFALFA SEED
Write for our new catalogue, ready to mail January 10th
TRUMBULL & BEEBE Seedsmen and Nurserymen SAN FRANCISCO. CA

NO EXCEPTION

Last year we said the Tilton Apricot was a regular bearer. NEVER FAILS. This year is no exception. Every tree bore heavily; old ones as well as the newer planted orchards.

Fifteen Years' Test
and still the

TILTON APRICOT

Is a winner. Large, highly flavored, good color. In the dried fruits the Tilton won First Premium at the Great Central California Fair. Liked by canners. Original tree 18 years old near our nursery. Buy trees where you can get true to name buds from original stock from the Original Tilton Nurseryman. A thrifty lot of peaches and other deciduous trees.

J. W. BAIRSTOW, HANFORD, CAL.

THREE LEAVES OF SHAMROCK.

When leaving dear old Ireland,
In the merry month of June,
The birds were sweetly singing
And all nature seemed in tune;
An Irish girl accosted me
With a sad tear in her eye,
And as she spoke these words to me
She bitterly did cry:

"Kind sir, I ask a favor,
Oh! grant it to me please;
'Tis not much that I ask of you,
But 'twill set my heart at ease,
Take these to my brother Ned,
Who's far across the sea,
And don't forget to tell him, sir,
That they were sent by me"
Chorus:—
Three leaves of shamrock,
The Irishman's shamrock,
From his own darling sister,
Her blessing too she gave.
Take them to my brother,
For I have no other,
And these are the shamrocks
From his dear old mother's grave.

Tell him since he went away
How bitter was our lot,
The landlord came one Winter day
And turned us from our cot,
Our troubles were so many
And our friends so few
And brother dear, our mother,
Used to often sigh for you.

"Oh! darling son come back to me!"
She often used to say.
Alas, one day she sickened,
And soon was laid away,
Her grave I've watered with my tears,
That's where these flowers grew,
And brother dear, they're all I've got,
And them I send to you.

TRAINING A HUSBAND.

That I must have a confidant is clear. Just think of me, a woman, keeping a secret a whole year! and such a joke, such a series of jokes! I laugh every time I think of them.

There is not one human being I dare trust; they would either be so amused or so shocked they would disclose everything, and then—that is a catastrophe I do not care to anticipate.

I will tell the world—not one, but all—then who need whisper what all know? I thus relieve my mind, let all who care to read share my mind, let all who care to read share my laughter, and keep my secret too; for even my husband may read and smile and never dream, dear innocent soul! that he is the hero of my truthful tale. I will so alter and reconstruct his outward appearance and picture so truthfully his personality that he will not only fail to recognize the protrait, but swear it was not meant for him.

Fred is a good-looking, stylish fellow, on the right side of thirty.

"That might be me," exclaim all the young husbands reading this, emphatially, if not grammatically.

But he is the most obstinate, conceited, selfish man you can imagine.

"Oh! that must be some other fellow," they all exclaim.

On the other hand, I am very charming, pretty, stylish, and amiable. I am not yet twenty-five, and know more than poor dear Fred ever began to. As I am the only person who would recognize this portrait, except, possibly my mother, I consider my characters sufficiently disguised to tell my story safely.

Fred and I had been married four years and wedded life had begun to lose some of its charms. I had no family or housekeeping cares to occupy me. We live in a small town noted for its social life, but Fred, from being a society youth, a leader of the "German," had forsworn such vanities. Things were "slow." When Fred came home at night from smoking and gossiping downtown—he called it business—we would have to get up a quarrel after dinner, just to amuse ourselves.

Finally Fred got in the habit of telegraphing home and staying down to dine with "the boys," while I took my meal in solitary state; or if he dined with me, in the evening he would drop in later at the club for a game of whist. As a last straw he became interested in the militia, and had about decided to join the "National Guard."

Now there was a very silly thing which I would not have had Fred know for anything. Despite his selfishness and his looking upon me as an "oft-told tale," I was still very fond of him. Even the quarrels, as long as he was near me, were better than absence and indifference. I was truly unhappy, but felt quite helpless as I had little faith in protestations and remonstrances. I knew, from my own experience, that what Fred needed were novelty and excitement.

"I do wish something would happen! If the house would catch fire, or I could have a fever—not a bad one," I exclaimed aloud one night as I sat alone in the house. Our solitary maid was out with her "soldier boy," and Fred had "dropped in" at a neighbor's for a game of cards.

There was a rustling sound at one of the windows.

"Burglars!" I whispered joyously, but alas! it was only a stray breeze playing tag with some loose leaves. I would not be disappointed—I would have burglars. I determined to experiment. Private theatricals were my joy and Fred had just vetoed my taking part in some. He did not approve of them since our marriage, though he had been very enthusiastic about them formerly.

"Well, young man," I soloquized, "I will get up some private theatricals myself, and as there are no love-scenes, perhaps you won't object. If you are good you can have a complimentary ticket."

I went down to the kitchen, and with a knife-handle broke a pane of glass, making a place large enough for a man's arm to go through. Then I turned the catch and left the window unfastened.

"This is where 'my burglar' got in," I explained.

Next I opened the sideboard drawers and rather disturbed their contents.

"No use, Mr. Burglar," I laughed, "silver is all upstairs."

In going through the hall I disarranged the rugs, as a person would be likely to do in making a hasty exit. Upstairs I upset the contents of three bureau-drawers in a heap on the floor, feloniously purloining some empty purse.

The scenery now being ready, it was high time for the actors to "make up." Rouge? Out of the question. Lily-white? With discretion; it would never do to have the water they might dash in my face run off like city milk. Hair, loose and disheveled as brush could make it. Bruises? Well, I did try them with ink; but not being much of an artist decided to omit them. A few rents in an old gown added considerable to my picturesque appearance.

Ten o'clock and eight minutes. All ready? Ring up the curtain while I bring in the audience.

I hurriedly ran downstairs, turned out the hall light, and threw the front door wide open. No one in sight. I threw an empty purse upon the stoop and hurried to the telephone. I rang violently, then dropping the ear piece, where I allowed it to remain, I scream:

"Burglars! Burglars!! Burglars!!! Help! My husband! Sniffins! Call him! Help! O-o—!"

Still screaming and calling as I left the "phone," I hustled about a couple of chairs, making a distracting noise. Then, hearing approaching footsteps, I threw myself upon the floor and lay apparently swooning.

In rushed Fred, Sniffins, and several others.

"How was it? Did they get anything? Are you hurt? How many were there? How did they get in? Where did he get out?" were only a few of the questions, all asked at once.

As I could not answer all, I merely screamed.

Of course Fred was frightened about me, so to keep his interest up I had a regulation attack of hysterics. I really could not help them, I was so suffocated with laughter. It was such fun to see them so excited! I had fully intended to tell them in a few minutes, but Fred enjoyed himself so hugely, he was in such a delightful state of importance, I had not the heart to crush him.

As time passed I could not fail to see that Fred regarded me as quite advanced in years, though I had just reached the quarter of a century mark. He began to pay attentions to the young ladies he met in society.

"Mollie," Fred said to me one day, "I would not dance so much if I were you."

"Why?" I innocently asked.

"Because, my dear, when a woman gets to be your age it is really better taste to sit down most of the time and make room for the girls."

"I will sit down every dance, with you, Fred," I responded, beamingly.

"I did not mean exactly that, Mollie. Of course I would prefer it, but there are generally so few dancing men I feel it my—ahem—duty to dance."

There was no question in my mind that he was very much interested in one of that season's "buds," a girl flavoring of bread-and-butter and the school room. Men display such peculiar taste in such matters. Of course I was foolish to be jealous of Fred's harmless attentions still they were such as he would not have liked me to receive. I knew jealousy was the medicine Fred needed, but how to administer it was the problem. Flirt myself, I would not; I had too much self-respect for that.

An inspiration! My medicine, like the physicians' sugar pills and colored water, should be a justifiable hoax.

I took a pen and wrote in a broad masculine hand: "Mollie: You know not how I suffer when I see you and realize anew that we are indeed parted forever. My only comfort is his indifference. While he is dancing with others I can be by your side looking into those azure eyes, listening to the sweet voice I love so well.

"O my darling! Why did you choose him in preference to one who worshipped you? A word and a smile from you are now my greatest treasures. Surely in time, his coldness and my devotion will turn your heart to one who in all these years has never wavered in his devotion."

When I finished this absurd letter I folded it many times and creased it that he might think it long carried and often read; then I dropped it where Fred could not fail to find it.

It worked charmingly. Fred came down to dinner with a countenance usually reserved for a fall in stocks. He could not even relieve his feelings by finding fault with the meal, as men generally do. I might draw comparisons.

"Darling, would you mind very much if we did not attend Anderson's reception tonight?? I have a headache," said Fred.

"Darling!"—I had been nothing better than "Mrs. S." or "Mollie" for months.

"I am sorry you feel ill, Fred," I said, gong over and kissing him, for I had some compunctions, "but hadn't we better try and go. You know the girls will be so disappointed, they depend on you so much as a partner."

"The girls be hanged!" he exclaimed, under his breath, but I heard it with great joy.

"Shall I read to you, dear?"

He gladly acepted my offer, and cheered up somewhat when he found I

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Do you want the Index? Write me.

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did not seriously object to remaining at home with him. The poor fellow grieved so that many times I could with difficulty refrain from telling my secret; but the thought of those odious girls would seal my lips.

Fred never referred to the letter, but was so devoted to me when we went in society that no opportunity offered for my former lovers to show me their constancy—had any one been so inclined.

But the greatest and best joke is young Fred. His father is so delighted with him, and he proves such an unfailing source of novelty and excitement, though he is now two years old, that I have no further use for my private theatricals.

I often laugh over the past, and right merrily; for a more loving, devoted husband than mine never gladdened the heart of woman.—Catherine Mortimer.

RECIPES

Eat Little, but Have That Little Good

OYSTERS AND CELERY ON TOAST

Chop fine a cupful of celery; add to this six or eight large oysters, also chopped. Put on the fire a half pint of any light stock, and simmer in it the celery until partly tender; add the oysters, one tablespoon of butter rubbed smooth with the same quantity of flour, a dash of red pepper, a level teaspoonful of salt, and just before serving a teaspoonful of lemon juice. Cook for five minutes and pour on rounds of buttered toast.

* * *

OYSTER OMELET.

For this the oysters are parboiled in their own liquor for exactly five minutes; drain thoroughly, cut each oyster in half, and sprinkle with salt and pepper. Make an omelet of three eggs, beaten light, half a cupful of milk, and two drops of nutmeg with salt to taste. There is also to go into this a tablespoonful of flour or cornstarch containing half a teaspoonful of baking powder. Add the oysters to this—you will need at least a dozen—and cook as you would a plain omelet.

* * *

OYSTER STEW.

The making of this is simple, and yet it is a dish of varying quality in the hands of different cooks. To have it in perfection, wash the oysters and drain them, then put them on to cook in just enough boiling water to cover them. Let them stew gently until the edges are slightly curled, then add part milk and part cream in the proportion of two cupfuls to a pint of oysters. Let this all come to a boil, then season to taste with salt, pepper and butter, with half a cupful of finely rolled cracker crumbs. Serve at once.

* * *

OYSTERS — MUSHROOM SAUCE.

This sauce calls for half a pint of strong brown stock, not, however, too highly seasoned with vegetables. Place on the fire, add a dozen fair sized mushrooms chopped or broken in small pieces. Simmer gently for twenty minutes, adding when half done a heaping teaspoon of butter rubbed with the same measure of flour. Season with salt and pepper, strain and keep hot while you stew a pint of oysters in just enough water so that they will not stick. If desired very rich they may be stewed or "plumped,' as it is called, in clear butter. Pour the sauce over and serve in individual dishes or in paste shells.

* * *

OYSTERS IN TOMATO SHELLS.

Chop rather fine one dozen large oysters; mix them with equal bulk of cracker crumbs, one beaten egg, a teaspoonful of chopped parsley, cayenne pepper to taste, also salt, and a little nutmeg or mace. Cut tomatoes in halves, scoop out the seeds, and fill with the mixture, placing small pieces of butter on the top of each. Bake with a little water in the pan for about twenty minutes.

* * *

Oyster Gumbo.—Cut up the meat of one medium sized chicken in small pieces; dredge them with flour and brown in the spider with three or four slices of bacon also cut in pieces. Add one small onion, minced, and about two quarts of water or weak broth. A tablespoon of tomato or mushroom catsup, some minced celery or parsley, with salt and pepper to taste may also be added. Simmer for three hours, then add three pints of oysters, and cook for two minutes. Just before serving add half a cupful of gumbo file.

* * *

Spanish Braised Beef.—Slice two small carrots, one onion, one turnip, and one stalk of celery, and lay half of them in a saucepan. Take about three pounds of lean beef and roll it in yellow cornmeal that has been well seasoned with salt and pepper. Place this on the vegetables, and then add the rest of the vegetables with just enough water to keep the beef moist. Cover and let simmer for about three hours, or until the meat is tender. If the meat is quiet lean, some butter must be added. Dish the meat and vegetables separately, and make a lemon sauce, if liked for the beef.

* * *

Stuffing for Roast Goose.—For a medium sized goose soak one ordinary loaf of bread in cold water for half an hour. Squeeze dry, and add to it two cupfuls of chopped tart apples, one onion chopped, and sage and thyme to taste, also salt and pepper. No butter is needed, as geese are so fat. Many prefer a mixture of apples and mashed potato, with the usual seasoning of sage and onion. The giblets may be cooked as for turkey, chopped and added to the dressing, or used for giblet sauce or gravy.

THE IDEAL HOME.

The foundation of modern civilization and the very cement of moral society are the family and the home. In savage life the spirit of individualism predominates; there is no instinct of solidarity, but as a man becomes civilized he realizes more and more the value of co-operation, and the more truly civilized he becomes the more coherent become the family and the home. Sever a man or a nation from the ideal of singleness of matrimonial alliance, the family and the home, and at once there is a debasement in moral life, and woman, as some one said, instead of being what God intended her to be, "a helpmeet to man," becomes his plaything or slave.

Home is the place that we love best, because it is the place where mother is, and there, because of her loving and fostering care, is the place of greatest earthly security. Man cannot create the home atmosphere; he may climb to great heights of fame; he may win great battles; he may triumph over all competitors, and thereby amass great riches; he may master the scineces, acquire a facility in innumerable languages, live or dead, but man, with all his power, genius and native ability, cannot make a home. That remains the task of woman and in this she remains supreme. Home ought to be the place where we can find the most refreshing rest. Home ought to be a place of genuine warmth; but some homes are as cold as ice, which breathe an atmosphere as cold as a breath from the polar zone. Let our homes be places of joy, love and brightest sunshine. Home ought to be a place of enduring love, the love which outlast the wedding-day and produces a life which is one long, unbroken honeymoon. Home is the molding place of character. Your child has a right to insist that you live such a life as will exalt the standard of true manhood and true womanhood. Your child has a right to demand that you do nothing to stain by sin the name you bear and which you bequeath to him as a life-possession. Give your child a sweetly religious atmosphere in which to grow; not one of monotonous "don't" and "you must not," but one that presents the attractive side of Christianity. Let Christ be the unseen but truly recognized guest at your home, and teach your child the religion of "the Book."—G. R. Stair.

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SOUTHERN PACIFIC

PRUNING THE ORANGE.

(Continued from first page)

ity of the crop. Judicious and abundant fertilizing, proper irrigation and thorough cultivation are rightly regarded as necessary factors in bringing about a good result. Some orchards, or parts of orchards, have naturally differing products, which treatments will not avail to change.

Already, to a limited extent, the proper pruning of the orange tree has been shown in actual practice to have a beneficial effect in the production of fine fruit, but when other controlling influences have not been sufficient, or of the right sort, correct pruning alone can not bring about desired improvement.

A Striking Illustration.—In one of these instances of thorough pruning with a well defined purpose and plan, so thoroughly carried out on some old trees that only four of them could be treated in a day, a traceable effect was seen the same season, almost wonderful as compared with former years. The parts removed, dead and living, littered the ground beneath and around, and seemed equal in quantity to the branches remaining. The trees took on new life, blossomed freely on the limited growth of the preceding season, put forth new shoots and bore a fine crop. Every branch of the diminished number was an efficient fruit bearer, save a few, still crowded, which the pruner was too timid to cut off. The fruit was strikingly uniform in size and appearance and regular in shape, and of superior flavor. It was plainly of higher grade and in greater quantity than that on adjacent trees on similar soil, with the same treatment except as to pruning.

Ideal Form.—If orange trees should be pruned, and if the pruning is of great importance in growing high grade fruit in large ratio, and in producing good crops, undiminished in quantity by the process, especially in merchantable quantity, then there must be a certain shape and condition of the tree aimed at in the work. The mind of the pruner will entertain an ideal form to which he will try to bring the tree, but as ideals are always, in practice, unattainable, he will come far short of the perfect shape he desires, especially if the tree has been neglected. At the foundation of the methods of procedure, there must be principles governing the work.

These principles cannot be arbitrary, the dictum of a sensible, experienced man, to say nothing of a crank, but must be founded on well known laws of the life and growth of plants; nor must we be tempted, in acting according to our knowledge of particular laws applicable to the work, to disregard other laws, or assume too much knowledge, and act with too much zeal in this one direction, and go astray, riding a hobby. The forming of the young tree is admirably described in Wickson's "California Fruits," after the method of J. H. Reed, of Riverside.

Be Discriminating.—The ideal object to be kept in mind by the pruner is to cause the bearing orange tree, just like the well-formed young tree, to have only such limbs grow as radiate outward from the trunk or divided stem. The lower limbs, as they have served as fruit bearers, will curve downward, and the higher ones will extend upward at an angle more or less acute, according to their age and bearing stage. Then each limb, if its vigor entitles it to remain, is to be treated as an independent unit and provided with ample space for the work of its foliage. The shoots, often quite large, that grow vigorously upright from the outward extending limbs, and the suckers, sometimes as large as principal limbs, if natural growth has not been interfered with, originating in the body of the tree and towering up through the favored branches with intent to form a second story, must be taken out. In some trees, such treatment becomes, at times, heroic, if neglect has prevailed. In others, a choice must somtimes be made in their favor, if they have continued so long as to leave the original top branches diminutive and weak.

In general, if these aspiring growths remain, they will ultimately dominate the tree and change it to a wood-forming, or timber tree in so far as this condition is predominant. The wood thus formed and located will, it is true, eventually become the home of fruit, but at the immediate expense of the regular fruiting limbs and the injury of the quantity and quality of both their fruit and their provision for new fruit twigs. These vigorous upstarts, when becoming productive, will bear fruit of a coarseness commensurate with their own rank growth. Besides advancing the tree top to an inconvenient height they interfere seriously with the true fruit limbs, and hold their own fruit exposed to weather injury.

(Concluded Next Week.)

BUSINESS NOTES.

The shops of the Fresno Agricultural Works are turning out a large number of cultivators and scrapers these days. The plant which was originally established for local or San Joaquin trade has extended its field till now it ships implements all over the country. While in Imperial Valley recently, the writer saw many of those Fresno graders there and on inquiry learned that they were the favorite and more, were almost exclusively used. A catalogue gives much information besides the line of goods manufactured by the works. Drop a card to the works at Fresno.

The Macabee gopher trap is one of the favorites with those who are pestered with gophers. It is claimed for it that it will catch eighteen out of twenty if it is set according to directions. It is manufactured by L. A. Macabee of Los Gatos.

The Maule Seed Book for 1904 is issued and while we have not seen it we are told it is a most attractive and creditable book. It is of 144 pages, many illustrations, seven of which are color plates. The book may be had by addressing Wm. H. Maule, Philadelphia.

A. Yarnell, of the Vernon nurseries, is preparing to offer a big lot of fine rose bushes to the trade next year.

S. H. Taft, of Sawtelle, advertises walnut trees. These are pronounced as especially fine stock.

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PLEASE SEND THIS TO SOME ONE WITH CANCER.

Los Angeles Markets.

Los Angeles, Jan. 21, 1904.

The local markets maintained about the usual degree of activity, although the weather is operating against any particular excitement.

Butter remains at last week's figures. Eggs a cent lower. Onions going up. Green peas slow at three and four cents for good stock. Potatoes firm.

Butter.

B. of T. Creamery, 2lb roll		70
So. California, dairy do	.60	62½
Cold Storage	.50	55
Cooking	.23	24

Cheese.

California and 3lb hand	16
Cal. Downey or Anchor	16
oast. full cream 16	17
Swiss .13	
Imported .28	

Eggs.

Fresh Ranch	.30	32
Fresh Eastern	.25	30
Store, case count	.26	28

Poultry.

Spring Chickens, per lb	.17	.20
Hens, No. 1, per lb	.14	14½
Ducks, per pound	14	15
Turkeys, per lb.	.20	.22
Turkeys, cold storage	.22	.23

Live Stock.

Hogs per cwt	5.25	5.37½
Prime steers, per cwt.	4.00	4.50
Cows and heifers	3.25	4.25
Calves	4 00	5 00

Potatoes.

River, per cwt	1.35
Oregon, do	1.50
Local, do .1.15	1.40
Sweet Potatoes Merced Yellow	3.00
Local White	2.00

Vegetables; Mixed.

Onions, yellow, per cwt	1.85	2.10
Beets, per 100 lbs		.90
Cabbage, per 100 lbs		1.50
String Beans		.07
Lettuce, per sack .25		
Tomatoes, 25 lb crate		1.75
Green Peas		.07
Celery, per doz		.40
Hubbard Squash, per ton		20.00
Carrots, per sack		.75
Chiles, string		.75
Cauliflower, doz		.65

Fruits; Fresh.

Navel Oranges, per box	.50	2.50
Lemons .1.00		2.25
Limes, per 100	.90	1.25
Four tier Belleflower		1.60
Four half-tier Bellflower		1.25
Pears, Winter Nellis, 40lb bx		1.50
Northern Apples, 40 lbs	1.00	1.40
Strawberries, box fancy	.08	12
Grapes, per crate .3.00		4.00
Guavas .04		.05
Pears .09		.10

Fruits; Dried.

Apples	5½	.06
Apricots	.08	.09
Raisins, per box		3.00
Prunes .05		.06

Nuts.

Almonds, paper shell		14
Almonds, soft shell .13		13½
Walnuts, soft shell	.14	14½
Walnuts, hard shells	.13½	14
Peanuts, eastern	6	7
Peanuts, California	5	6

Hay and Grain.

Alfalfa	16.00
Tame Oat	16.00
Barley Hay	16.00
Wheat Hay	15.00
Wheat .1.35	1.45
Barley	1.10
Oats .1.25	1.35
Corn .1.15	1.20

Mill Stuff.

Quotations f. o. b. cars L. A., are:

Rolled Barley	1.25
Bran	1.25
Feed Corn Meal	1.40
Middlings	1.45
Cracked Corn .1.35	1.40
Oil Cake Meal .1.75	1.80
Chicken Wheat	1.60
Cocoanut meal	1.50

Beans, Dried.

Pink, per cwt		3.25
Lady Washington do	3.25	3.50
Limas	3.50	3.75
Small White	3.40	3.45

San Francisco Markets.

Dairy.

San Francisco, Jan. 21, 1904.

Increased offerings checked the values for butter yesterday, but a steady call caused the market to maintain a firm tone. Receipts yesterday aggregated 46,700 pounds Butter, 1142 cases Eggs, 6300 pounds Cheese.

BUTTER—Per lb:

Creamery, extras	31
Creamery, good to fancy	27½ 30
Dairy, extras	25 26
Dairy, choice	22 24
Store	17 @18
California storage	21 @24
Eastern Creamery	Nominal

Eggs and Poultry.

Eggs show a decline all along the line, with a prospect of going even lower. Buyers are cautious and anticipate lower figures.

EGGS—Per doz:

Ranch, selected large	27 27½
Ranch, good to choice	24 26
Store	21 23
California storage	Nominal
Eastern	Nominal

The Poultry market maintains a strong front, as all offerings are quickly disposed of. All Eastern goods are speedily taken up.

POULTRY—Old Roosters, per doz, $5.50@6; young Roosters, $6.50@7.50; Fryers, $5.50@6; Broilers, large, $5@5.50; small, $4.50@5; Hens, small, $5@6; large, $6@7; Ducks, per doz., old $5.50@6.50; young, $6.50@7.50; Live Turkeys, per lb., 16@18c; Dressed Turkeys, per lb., 18@21c; Geese, per pair, $2@2.25; Goslings, $2@$2.25; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.25@2.50.

Fruits and Vegetables.

There was a marked falling off in the demand for Fruits Thursday, and the market again presented a tame and listless appearance, with little interest shown beyond the regular daily routine movement in jobbing channels.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 40c@$1.00; fancy, $1.25@$1.75.

PEARS—Per box, Winter Nellis, $1.50@2.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.75@2.25; choice, $1@1.50; standard, 65c@$1, acording to size; Seedlings, 60@85c; Lemons, $1@2.50; extra, $2.75; Japanese Fruit, $1@2; Tangerines, 50c@$1; Japanese Mandarins, $1@1.25; Limes, $4@4.50.

The potato market showed general activity for the past week, the demand being strong.

POTATOES—Per ctl.: River Burbanks, 75c@90c; Early Rose nominal; River Reds, 60@70c; Salinas Burbanks, $1.35@1.50; Oregon Burbanks, $1.15; Sweet Potatoes, $1.85.

Onions—Yellow, per ctl., $1.25@1.40.

VEGETABLES—Tomatoes, per box, Bay, nominal; do, southern, per crate, 75c@$1.25; Rhubarb, per lb., 6c; Green Peppers, per lb., 7c@10c; Dried Peppers, Stockton, 5@8c; southern, 11@12c; String Beans, per lb., 10@15c; Wax, 10@12½c; Green Peas, per lb., 3@5c; Egg Plant, per lb., 10@15c; Summer Squash, per box, $1@1.15; onions, yellow, per ctl., $1.40@$1.50.

Dried Fruits, Nuts, Etc.

The market shows no change this week as to dried fruits.

DRIED FRUITS.—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 3½@6c; Sun Dried, 3¼@4c.

Apricots—Royal, fancy, 9¼@10c; choice, 8½@8¾c; Moorparks, choice, 10@12c.

Peaches—Choice, 5@6c; fancy, 6¼@7c; peeled, in boxes, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9½@10c.

Plums—Pitted, 6@9c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2½@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Red, 4@5c.

Figs—White, 4@5c; Black, 4@4½c.

NUTS—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Pecans, 11@13c; Pinenuts, nominal; Peanuts, Eastern, 6@6½, do, California, nominal; Brazil, 11@12c; Filberts, 10@11c; California Walnuts, soft shells, No. 1, 13@14; do, No. 2, 11@12c; hard shells, No. 1, 12@13c; do, No. 2, 10@11c; Hickory, 8@10c, Chestnuts, Italian, 9@10c; Coacoanuts, $4.50 $5.00 per hundred.

HONEY—New Comb, per lb., White, 10@12c; Amber, 8@10c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb: 23@28c.

Beans.

BEANS—Prices, per ctl.: Large Whites, $2.50@$2.65; small do, $3@3.15; Pea, $3.05@3.20; Lima, $3.15@3.20; Red, $3.50@4.25; Pink, $2.80@$2.90; Bayo, $2.30@2.50; Blackeyes, $2@2.15; Red Kidneys, $4.25.

DRIED PEAS—Prices, per ctl.: Green, $2.50; Niles, $2.75.

Live Stock.

Depressed condition of hogs and cattle market continues. Prices unchanged.

CATTLE—No. 1 Native Steers, 8½@8¾c; second quality, 8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6½c; second quality, 6½@6c; thin Cows and Heifers, 3½@5c; Bulls

and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 4¾@5½c, gross weight; heavy, 4¼@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 4@4½c per lb., gross weight; Ewes, No. 1, 3¼@3¾c, gross weight.

LAMBS—Spring Lambs, $2.50@3 per head or 4¾@5¼c per lb., live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs. and over, 5@5⅛. Market depressed; tendency downward.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $16@17.50; Wheat and Oat, $15.50@17; Oat, $14.50@16.50; Barley, $14.50@16; Clover, $13@14; Alfalfa, $13@14; Stock, $11@12.

STRAW—Good to choice, per bale, 55@65c.

FEED CORN MEAL—Choice grades, per ton, $28@29.

MIDDLINGS—Per ton, $27@29.

BRAN—Per ton, $20.

OILCAKE MEAL—In lots of 20 tons, $27 per ton; 10 tons, $27.50; 5 tons, 28; less quantity, $28.50. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $24.

COCOANUT CAKE—In lots of 10 tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 shipping, per ctl., $1.37½; white milling, good to choice, $1.40@1.52½.

BARLEY—Choice No. 1 feed, $1.11¼@$1.15; off grades, $107½@108¾; brewing, No. 1, $1.17½@$1.22¼; Chevalier, $1.30@1.45.

CRACKED CORN—Choice quality, per ton, $28.55@29.50.

OATS—Good to choice white, $1.30@1.40.

Hops.

The price for new crop is 23@27½c per lb, acording to quality.

WOOL.

The wool market shows no material change from last week's quotations.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, Jan. 21.—The wheat market has been strong all this week, due largely to certain conditions and the demand for May delivery. Efforts to cover shorts advanced prices rapidly. The market continued to gain in strength as the session advanced, and within the last five minutes of trading May had reached 92⅛@92¼c, a gain of 2¼c. The close was at 92½c. Corn was strong throughout the entire session. A new high record for May delivery was also made in this pit. May opened a shade lower to a shade higher at 49¾@49⅞c, and after selling up to 50⅝c, closed at 50⅝c. The strength in wheat and corn sustained oats and prices made further gains. May opened a shade lower to a shade higher at 41⅜@41⅞c, advanced to 42⅝c, and closed at 42⅜@42½c. Provisions were firm owing to the strong grain markets.

Cash quotations were as follows: Flour was firm; No. 3 spring wheat, 78@86; No. 2 Red, 86@92¼c; No. 2 Corn, 46¾; No. 2 yellow, 48; No. 2 oats, 39@39½; No. 3 white, 37½@41½; No. 2 rye, 56; good feeding barley, 40@42; fair to choice malting, 47@58; No. 1 flax seed, 1.06; No. 1 Northwestern, 1.12½; prime timothy seed, 3.25; mess pork, per bbl., 13.05@13.17½; lard, per 100 lbs, 6.97½; short ribs, sides (loose), 6.30@6.55; short clear sides, (boxed), 6.62½@6.75; clover, contract grade, 11.25.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	54,100	29,900
Wheat, bushels	99,400	21,100
Corn, "	493,600	223,000
Oats, "	355,400	122,500
Rye, "	14,300	4,000
Barley, "	19,900	18,300

Chicago Live Stock.

CHICAGO, Jan. 12.—Cattle—Receipts, 17,000; steady to strong; good to prime steers, 5.00@5.70; poor to medium, 3.50@3.80; stockers and feeders, 2.50@4.00; cows, 1.50@4.25; heifers, 2.00@4.75; canners, 1.50@4.25; bulls, 2.00@4.75; calves, 1.50@2.30; Texas fed steers, 2.00@4.00; western steers, 5.00@6.50. Hogs—Receipts, today, 30.000; tomorrow, 35,000; 10c to 15c higher; mixed and butchers' 4.60@4.85; rough heavy, 4.65@4.95; light, 4.40@4.85; bulk of sales, 4.75@4.95. Sheep—Receipts, 18,000; sheep and lambs steady; good to choice wethers, 4.25@4.60; fair to choice mixed, 3.00@4.00; western sheep, 3.00@4.40; native lambs, 4.50@6.30; western lambs, 4.75@6.25.

DAIRY MARKET.

On the Produce Exchange today the butter market was steady; creamery, 15@21; dairy, 18@19; eggs steady, 25@27; cheese, steady, 10@10½.

California Dried Fruits.

NEW YORK, Jan. 20.—The market for evaporated apples is quiet under a light demand, with the general undertone rather favoring buyers. Common are quoted at 4@5c; prime, 5½@5¾c; choice, 5½@6c; fancy, 6¼@7c. Prunes are rather easy here, but coast advices indicate firmness among primary holders and a tendency to sustain local quotations that range from 3½@6½, according to grade. Apricots are quiet; choice are quoted at 9¼@9½c; extra choice, 9¾@10¼c; and fancy, 11@15c. Peaches are steady, with choice held at 7¼@7¾c; extra choice, 7¾@8c, and fancy 9@10c.

New York General Market.

NEW YORK, Jan. 21.—Wheat, spot, firm; options closed ¾ to 1¼c above Tuesday; May closed 93¾c; July closed 89c. Hops firm. Hides firm. Wool firm. Petroleum, steady. Coffee, spot firm; No. 7 invoice, 8 1-16c; mild steady. Sugar, raw nominal; refined dull.

CITRUS MARKETS

THE ORANGE MARKET.

The weather has proved a serious obstacle to active trading in oranges at eastern auction points. Zero weather of this week, so far resulted in practically postponing, up to Wednesday, orange sales from California. Florida oranges were sold, to some extent, but the demand for them did not amount to much only a few hundred boxes being sold daily. On Wednesday seventeen cars were sold at auction. extra fancy Thompson's Navels bringing $2.75@2.10; average $2.34; Washington Navels, $2.45@1.70; average, $2.40.

THE LEMON MARKET.

The lemon market maintained fair activity, sustaining itself better than the orange market.

AUCTIONS.

CINCINNATI, OHIO, Jan. 15, 1904.

O. K. Fruit Exchange. Coyote Navels, $1.75. Owl, $1.60.
C. C. U. Alhambra. Skyhigh Navels, $1.75.
C. C. U. Santa Ana. Beaver Navels, $1.80.

CLEVELAND, OHIO, Jan. 15, 1904.

O. K. Fruit Exchange. Coyote Navels, $2.10.
C. C. U. Rialto, Camellia Navels, $2.20.
O. K. Fruit Exchange. Upland. Coyote Navels, $1.95.
Riv. Fruit Exchange. La Mesa Navels, $2.40.
C. C. U. Riverside, Gypsy Queen Navels, $1.95.
C. C. U. Riverside. Sunbeam Navels, $1.95.
C. C. U. Highlands, Trophy Navels, $2.20.
Riv. Fruit Exchange. Uncle Sam Navels, $1.95.
Riv. Fruit Exchange. Victoria Navels, $2.10.

NEW YORK CITY, Jan. 15, 1904.

C. C. U. Riverside. National Navels, $2.00. Carnation, $1.90.
Riverside Fruit Exchange. Victoria Navels, $2.05.
A. C. G. Glendora. Pointer Navels, $2.00 Hunter, $1.70.
Riverside Fruit Exchange. La Mesa Navels, $2.35.

PHILADELPHIA, PA., Jan. 15, 1904.

C. C. U. Redlands. Lionhead Navels. $2.50
C. C. U. Rialto. Minnehaha Navels, $2.10
C. C. U. Allesandro. Perfection Navels, $2.10.

BOSTON, MASS., Jan. 15, 1904.

C. C. U. Exeter. Mariposa Navels, $1.30
C. C. U. Rialto. Cream Navels, $2.10. Minnehaha, $1.80.
Riverside Fruit Exchange. Blue Globe, $2.15. Red Globe, $1.70. Standard, $1.30.
O. K. Fruit Exchange. Upland. Bear Navels, $2.15. Quail, $1.70.
C. C. U. Redlands. Blossom Navels, $2.05.
S. B. Fruit Exchange. Pine Cone Navels, $2.00.

NEW YORK CITY, Jan. 18, 1904.

Riverside Fruit Exchange, La Mesa Navels, $2.15.
Riverside Fruit Exchange. Victoria Navels, $2.25.
Riverside Fruit Exchange. Victoria Navels, $2.00.
San Bernardino Fruit Exchange. Royal Knight Navels, $2.10.
C. C. U. Redlands. Lion Head Navels, $2.10.
C. C. U. Riverside, Gypsy Queen Navels, $2.10.
Riverside Fruit Exchange. La Mesa Navels, $2.10.
C. C. U. Rialto. Rialto Navels, $2.00. Gondolier Navels, $1.90.

PHILADELPHIA, Jan. 18, 1904.

T. C. Exeter. Visalia Navels, $1.05.
C. C. U. Redlands. Bronco Navels, $1.85.
C. C. U. Riverside. Carnation Navels, $1.90.
C. C. U. Highlands. Highlander Navels, $2.35.
O. K. Etiwanda. Bear Navels, $2.00. Quail, $1.75. Coyote. $1.70.
C. C. U. Highlands. Stearns Navels, $2.30.
C. C. U. Riverside, Gypsy Queen Navels, $2.00.
C. C. U. Highgrove, Gypsy Queen Navels $2.20.

CLEVELAND, OHIO, Jan. 18, 1904.

C. C. U. Redlands. Camellia Navels, $2.10.
Riverside Fruit Exchange. Victoria Navels, $2.20. Lincoln, $2.00. Navel'o, $1.95.
C. C. U. Highlands. Seedless Grapefruit, $2.55.
C. C. U. Ontario. Fox Navels, $1.80. Seal of Cal., $1.65.
C. C. U. Fullerton. Azalea Navels, $1.85.

PITTSBURG, PA., Jan. 18, 1904.

O. K. Fruit Exchange. Bear Navels, $2.00. Lark, $1.70.
Riverside Fruit Exchange. U. S. Navels, $2.10. Fiesta Navels, $1.55.
Riverside Fruit Exchange. Blueprint Navels, $1.50.
Riverside Fruit Exchange, Gypsy Queen Navels, $1.95. National, $2.00.
O. K. Fruit Exchange. Upland. Quail Navels, $1.85.

Total to date this season, 4286 cars, of which 364 cars are lemons.

Total to same date last season, 3767 cars, of which 497 were lemons.

Geo. W. Sill, the fruit grower of Pajaro valley who was arrested on the charge of shipping improperly branded fruit, has brought suit for damages in the sum of $15,000 against Inspector A. N. Judd, alleging false arrest. The Pajaro Valley Orchardists' Association has endorsed Mr. Judd and pledged him its financial and moral support.—Fruit Grower.

The Supreme Court of Nebraska has decided that "dealing in futures" on the Board of Trade is gambling and such contracts cannot be enforced.

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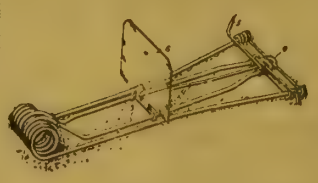

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Z. A. MACABEE, LOS GATOS, CAL.

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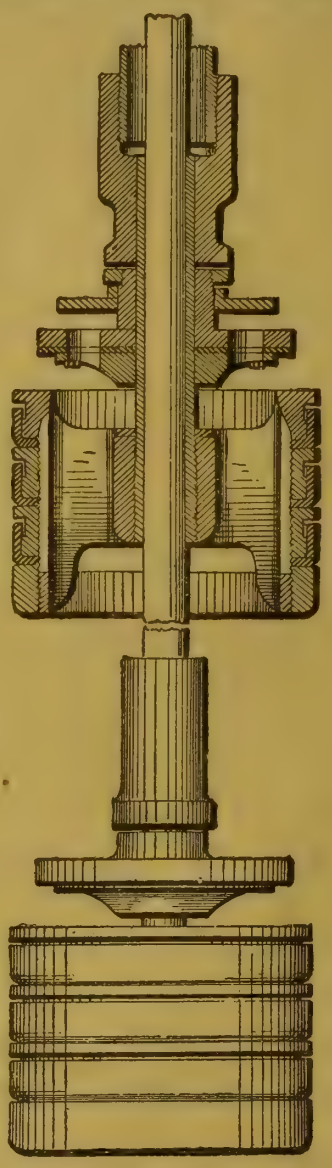

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POMONA M'F'G. CO.

Manufacturers POMONA, CAL.

ORPHANS CARED FOR.

The following named children have been received in the Boys' and Girls' Aid Society Home since July 1st, 1903.

Half Orphans—Frank Lugo, aged 10 years, black hair, black eyes; Louis Beaumont, aged 12 years, light hair, blue eyes; Raymond Beaumont, aged 10 years, blue eyes, light hair; Edward Carson, aged 7 years, blue eyes, light hair; Howard Jones, aged 11 years, blue eyes, light hair; Frank Fikes, aged 8 years, light hair, blue eyes; Jose Higuero, aged 6 years, dark hair, black eyes; Grace Odell aged 9 years, gray eyes, light hair; Florence Odell, aged 11 years, dark hair, brown eyes; Clara Bragg, aged 9 years, dark eyes, dark hair; Bertha Bragg, aged 6 years, light hair, brown eyes; Edith Bragg, aged 2 years brown eyes, brown hair; Clemens Wilson, aged 5 years, brown eyes, light hair; Ralph Woods, aged 12 years, dark hair, blue eyes; Daniel Woods, aged 10 years, dark hair, blue eyes; John Woods, aged 6 years, brown hair, blue eyes; Cynthia Bragg, aged 13 years, light hair, gray eyes; Elizabeth Bragg, aged 11 years, dark hair, dark eyes; Laurence Fleming, aged 4 years, dark eyes, light hai ; Laura Fleming, aged 8 years, light hair, blue eyes; George Knight, aged 6 years, brown eyes, dark hair; Grace Wenr, aged 8 years, blue eyes, light hair; George Watson, aged 12 years, brown eyes dark hair; Eva Watson, aged 10 years, blue eyes, light hair; William Watson, aged 2 years, brown eyes, light hair.

MRS. EMMA A. CHRISTIAN, Supt.

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Gardena is located in the center of the broad fertile valley between Los Angeles and San Pedro; has two electric lines giving the very best facilities for marketing products.

It is without rival in regard to climate, soil and water supply.

The soil is adapted to berries, alfalfa, vegetables, walnuts, etc.

For Sale, 10 Acres, $4500

House of 6 rooms, barn, farming tools, hay in barn, 1 horse, chickens, etc. One acre in alfalfa, balance in orchard, mostly apricots. $2,000 cash, 6%, good time.

5 Acres, $2,000

Three acres young strawberries; balance alfalfa and garden. Horse, cow, buggy and farming implements.

5 Acres, $1,400

Two and one-half acres new strawberries,

20 Acres, $2500

One acre strawberries, 3 acres apple orchard; 7-room house; barn. Easy terms.

FOR SALE, 6 ACRES, $2400

Set to walnut trees, interset with bearing fruit trees. Berries, one acre of Rhubarb, etc.

For Sale, House and Lot, $1200

4 big rooms, closets and pantry, entrance hall and good grounds.

For Sale, 11 Acres, $3200

House, barn, good pumping plant. Good celery or alfalfa land. A bargain.

FOR SALE, 20 ACRES, $4,500

$1,500 in improvements. Good house, barn, etc Berries, alfalfa and fruit. Terms, $2,000 cash.

FOR SALE, 5 ACRES, $2000

Four-room house, 3 acres of young strawberries, balance alfalfa and garden. Five tons barley hay. 3 tons alfalfa, horse, cow, chickens, buggy and farming implements.

FOR SALE, 5 ACRES, $1400

2½ acres of new strawberries, good water right.

FOR SALE, 8 ACRES, $4,000.

Two acres blackberries, 3 acres alfalfa, ¼ acre loganberries, and a good family orchard. A 4-room house, sheds, corrals, etc. Plenty of water for irrigation and domestic use.

FOR SALE, 20 ACRES, $5,000.

One-half mile from car line and near school. Small house and barn, a pumping plant, 2 acres of strawberries and 2 deep wells.

For information about these places and other good bargains in Gardena property, write to

W. M. GRAY
Gardena, Cal.

Coulson's Chick Food

Makes Chicks Grow

COULSON'S Growing Chick Food is a mixture of 14 different grains, seeds, meals, etc., such as oat meal, pea meal, rice, wheat, millet seed, hemp seed, flax seed, flax meal, fine bone meal, baked hearts and liver meal, animal charcoal, etc., proportioned so as to meet all the needs of growing chicks and to fully nourish them.

By the term "fully nourished" we mean a great deal. Common grain or chick foods, as a rule, contain too much fat-forming and not enough bone and muscle-forming elements, and in consequence, the chick develops indigestion and diarrhoea and soon dies, or is only partly nourished, leg weakness develops and the chick drags out a miserable existence.

If you will feed Coulson's Chick Food to the chicks they will be fully nourished and you will be relieved of these troubles. Coulson's Chick Food is a complete, properly balanced ration, all mixed, ready for feed. You feed it just as it is, wet or dry; mix nothing with it, as it contains all they require for the first eight or ten weeks.

Coulson's Chick Food is not very expensive. It is much cheaper to feed Coulson's Chick Food and raise big, strong chickens, than to feed by guess a little of this and a little of that, and not raise more than one-half of them. Remember Coulson's Chick Food contains everything required to fully nourish the chicks for the first eight weeks.

Coulson's Chick Food fills the bill perfectly and properly. The percentage of the constituting elements that enter into its composition is most admirably correct. The protein, carbonacious and nitrogenous matter that enter into it are compounded in such proportion so that the chicks can easily digest the food and get the full amount of nourishment from it.

Parties who have once used Coulson's Chick Food are satisfied that it makes the chicks grow, and that it is far better than ordinary food.

Coulson's Chick Food carries the chicks over the danger line and imparts to them growth and vigor.

NEARLY ONE HALF OF ALL THE CHICK FOOD SOLD AND IN USE IN CALIFORNIA IS COULSON'S CHICK FOOD. ALL THE TROUBLE IS CAUSED BY THE OTHER HALF.

The virtue of Coulson's Chick Food is spreading with amazing rapidity. Do not get away with the idea that Coulson's Chick Food is "expensive feeding." It is much cheaper than the ordinary way—far so.

What is the use of feeding your chicks on cheaper feed because it is cheaper? The chicks die and you have no feed nor value to show for it.

When the chicks die any kind of feed is expensive. In large broods the loss of food is quite an item and the loss of chicks quite discouraging.

Used With Success by the Largest Poultry Raisers in California

Coulson's Growing Chick Food

Makes Bone, Muscle, Meat and Feathers

It is better to spend a little more and get Coulson's' Chick Food and raise bigger, spryer and healthier chicks.

The root of all trouble in poultry culture is the death of the chicks. Have you ever stopped to think how many hundreds, perhaps thousands, of chickens you would have had if those fine hatches had not died off?

Nowadays no one has much trouble in hatching chicks, but the brooder makes short work of them. The fault may be due to the regulating or care of the brooder or it may be found in the laying stock from which you have secured the eggs. They may be out of condition. But the main cause is in the feeding. We do not say that if you feed Coulson's Chick Food that your chicks will not die. But we do say that if the chicks are fed on Coulson's Chick Food according to directions, they are rightly fed and if they die they died from some other cause.

In conclusion, we will say if you like to see little chicks dive into feed as though they like it; if you want to see little chicks always spry and healthy; if you want to have them grow rapidly and mature quickly, then you want to feed them the first two months on

COULSON'S CHICK FOOD.

and you will be pleased with the way your little chicks are growing. No bowel trouble, no leg weakness amongst the chicks, if they are raised on COULSON'S GROWING CHICK FOOD.

Coulson's Chick Foods will cost you more than some other foods, but Coulson's Chick Food will raise the finest and largest chicks.

We take great pains and carefulness in selecting the grains, seeds and meals to be used in preparing Coulson's Chick Food.

More than 200,000 pounds of Coulson's Chick Food sold last season, and about a million chicks were raised on Coulson's Chick Food.

C. H. Purvine, one of the most practical and experienced of Petaluma poultrymen, who has a large poultry farm and raises thousands of chicks, uses tons of Coulson's Chick Food with splendid success. To the last brood of 3400 chicks he fed 1 sack every day of Coulson's Chick Food and at the age of four weeks the chicks were big enough to go on the roost.

Mr. C. Garrazzi, who has a large poultry farm near Tomales, raises many thousands of chicks on Coulson's Chick Food. He uses tons of it and contracts for it by the carload.

Mr. W. S. Rose, of Antioch, Cal., who raises thoroughbreds, Barred Plymouth Rocks and White Minorcas that took the prize at the last San Francisco Show, has a rooster that was fed on Coulson's Chick Food and now weighs 14 pounds.

OAKLAND, Cal., Dec. 3, 1903.

I have used Coulson's Chick Food all last summer and found it highly satisfactory and would not be without it for raising little chicks. While feeding this feed I did not lose a single chick, and they grew so fast it was astonishing. DR. F. X. BODIN,

2102 Elm Street, Oakland, Cal.

We have hundreds of letters from poultrymen in all parts of California who have used Coulson's Chick Food with splendid success, and if you are going to raise any chicks this season we hope you will give Coulson's Chick Food a trial, for we know that you will be pleased with results.

It is evident from the many testimonials we receive that COULSON'S CHICK FOOD is a vast improvement over other foods. A. De Rezendes raised last year 6000 chicks on COULSON'S CHICK FOOD. He sold over 2000 broilers and he now has 1500 pullets just old enough to begin to lay. He has over 4000 growing chicks now that he is feeding COULSON'S CHICK FOOD and he will hatch out many thousands more in a short while. He buys Coulson's feed in car lots, in fact, we just shipped him a car of over 300 sacks a few days ago.

It Is Wonderful How It Makes Chicks Grow.

PRICE OF COULSON'S CHICK FOOD

At Factory, Petaluma, We do not pay freight.

90 pound sack - - -	$2.15
5 sack lots - -	$2.10 per sack
10 sack lots - - -	$2.05 per sack

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For Sale at the S. K. Woodward & Co. feed store at Downey, Los Angeles Co. They have just got in a car of 15 tons, 30,000 pounds. Also for sale by the Germain Seed Co., Los Angeles, and Channell Commercial Co., Ventura and Santa Barbara and 150 other stores throughout the State.

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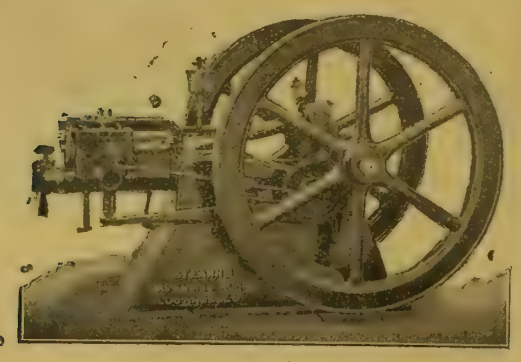

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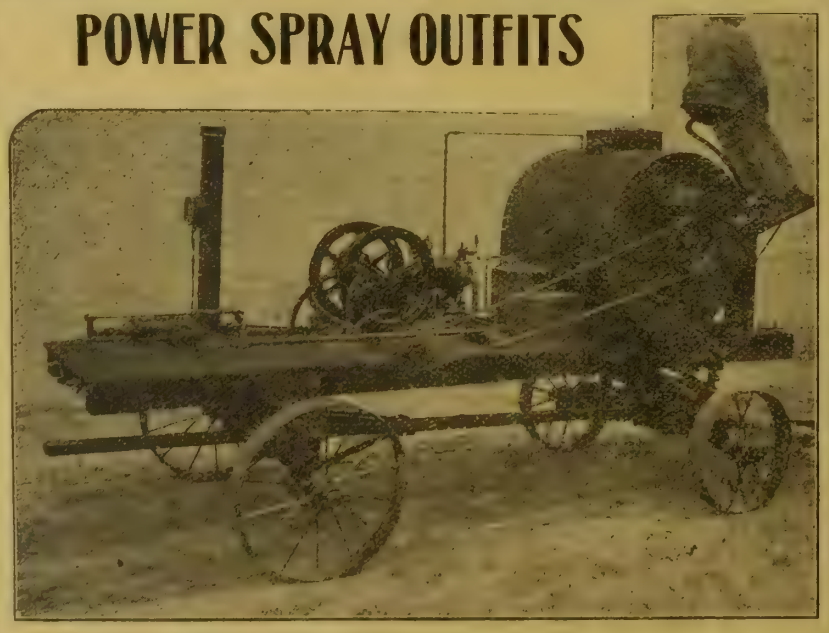

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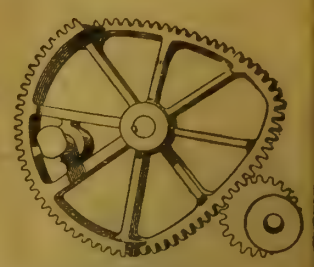

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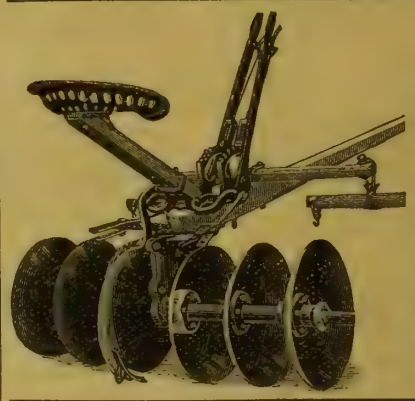

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LOS ANGELES SAN FRANCISCO

FEBRUARY 12, 1904

IN THIS ISSUE: Grafting Peach and Pear Seedlings; Feeding Chickens For Profit; Drought-Resistant Trees; Influence of Fogs; Bee-Keeping.

Picking Dewberries at A. R. Rideout's Ranch, Whittier, Cal. (See Page 152)

CIROULATION EXCEEDING 10,000

Fullerton, Cal., Oct. 24, 1903.
RIVERSIDE NURSERIES, Riverside, Cal.
Dear Sirs—It is with no small degree of pride that I point to the orange orchard that I set out in June, 1902, with stock from your nurseries. I am not acquainted with any orchard of similar age that has done so well, and is today so promising. This certainly speaks in no uncertain language of the character of the stock coming from your nurseries. Very respectfully,
CHARLES CHAPMAN.

CITRUS NURSERIES

Arlington Heights, Riverside, Cal., Dec. 1, 1903.
JAMES MILLS, ESQ.
Dear Sir—In reply to your inquiry regarding orange trees bought of you last Spring, I will say that they are very satisfactory. They are much larger and more vigorous than any out of town trees we bought last year. I have never seen any nursery stock to equal our best Riverside trees—and I have been planting for the last 24 years. Yours very truly,
C.A. CROSBY, Mgr. Alta Cresta Rancho

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Ontario, Cal., Dec. 5, 1903.
MR JAMES MILLS, Riverside, Cal.
Dear Sir—The orange trees that I received from you last season were the most satisfactory that I have ever had, and have made a strong, vigorous growth. I have seldom seen trees make better heads, or look so thrifty in so short a period since planted. It certainly pays to buy good trees, cheap trees are the dearest in the long run.
Yours truly, A. T. HAMILTON.

JAMES MILLS,

...MANAGER...

RIVERSIDE, CAL.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 7 LOS ANGELES, CAL., FRIDAY, FEBRUARY 12, 1904 Subscription $1 a Year

Peach and Pear Grafting

BY JOHN ISAAC, SACRAMENTO

I have been asked by a subscriber at Loomis, California, to give some information regarding grafting peach and pear seedlings, and the methods of preparing the wax to be used in the work; also to give some information about transplanting peach and pear trees.

There are several methods of grafting seedling peach and pear, as well as other seedling trees, and the rules given will be found applicable to nearly all deciduous stock. Perhaps the simplest form is that known as whip grafting, and this form is more generally practiced in the grafting of young stock than any other. It is equally applicable to grafting in the nursery or on the bench. In the one case, the young stock is worked over where it stands in the rows, without removal, and in the other it is taken up, transferred to the shed and placed on the grafting bench where the work is done, after which it is transferred to the nursery rows. In the latter case the work is much easier than where the stock is grafted in the field, as it saves the wearying stoop which is so tiresome in field work. Work can be done in the shed, too, in all weathers, and for these reasons bench grafting is to be preferred.

In grafting seedling stock the young trees are cut off at the proper distance, which is usually close to the ground, with a sloping cut, about an inch in length. This cut should be made with a firm hand and without hesitancy, so that it is smooth and even through its whole length. Then, reversing the knife, start a cut about a fourth of an inch from the top of the first cut and split it down in the form of a tongue. The scion is then prepared in the same manner, but, of course, reversed. The scions should always have several healthy buds and correspond in size with the stock.

It is imperative that the cambium layer of both scion and stock come in contact on one side at least. This forms a continuous passage for the flow of sap between the two and an adhesion will soon take place which insures the future tree. This is one of the most important points in grafting; the next is to so cover the wound that all air shall be excluded. This is accomplished with grafting wax, which is applied to the point of union between the stock and the scion. If the air gains admission the graft dries and curls away from the stock and the operation is a failure.

The following illustration will give a good idea of the method of grafting above described.

* * *

The transplanting of the young trees in nursery rows after the grafting has been finished is a very simple operation, and consists of setting them in a trench which has been prepared for them, giving ample root room, for the roots should not be crowded, and setting them about twelve to eighteen inches apart in the rows. The rows should be about three feet apart. Of course, careful cultivation is required and they should be kept free from weeds. Care should be taken not to loosen the graft after it has been inserted and in working around the young stock this emergency must be carefully guarded against.

A. The scion. a. The sloping cut. b. The tongue. c. Shows thickness of tongue. B. The stock. d. The sloping cut in the stock. e. The tongue. f. Shows thickness of stock from the cut or tongue. C. The scion inserted, and ready for waxing.

The Black Fungus...

A correspondent from Santa Rosa writes that his pulm orchard is affected with honey dew, and his orchard is also troubled with prune scale. He asks for a formula to spray with and also a formula to spray his apple orchard for codling moth.

The black fungus or honey-dew of which you complain is not a disease of itself, but rather a symptom. It is caused by the scale which is found on the trees. Nearly if not quite all the coccid, or scale family exude a honey dew. The insects suck the sap from the trees on which they find lodgment and a continuous, but very fine shower of this sweet sticky substance is thrown off by them and falls to the leaves below. If the trees are very seriously attacked by the scale, this exudation may be so great as to cover the ground beneath the trees. Falling on the leaves, these become coated with it and this affords perfect conditions for the growth of the black fungus, which our correspondent describes. The remedy is to get rid of the scale. We have a very effective parasite of this prune scale, or, as it is more commonly known, the brown apricot scale, in the Comys fusca, a very small fly which lays its eggs inside the scale. These eggs hatch out small maggots which at once devour the eggs of the scale and thus reduce its numbers. Our correspondent should apply to Mr. Alexander Craw, Deputy Horticultural Commissioner, room 11, Ferry Building, San Francisco, for a colony of these parasites and he will send it in the season, which will be in May or June. It may take the parasite two or three years to overtake the scale but it will do it, and then the scale and black fungus will disappear together. Of course when the parasites are introduced there should be no more spraying done. If, however, our correspondent is anxious to get rid of the pest and does not wish to wait for the parasite to do the work he can use the following spray:

Rosin	30 pounds
Caustic soda (98%)	8 pounds
Fish oil	4½ pints
Water, to make	100 gallons

Place the rosin, caustic soda and fish oil in a large boiler, pour over them about 20 gallons of water, and cook thoroughly over a brisk fire for at least three hours; then add hot water, a little occasionally, and stir well, until you have not less than 50 gallons of hot solution. Place this in the spray tank, and add cold water to make the necessary amount. Never add cold water when cooking.

This may be used any time during the winter months, preferably as late as possible before the trees are in leaf.

* * *

For codling moth in apples, Paris green is the most effective remedy, really the only one to be recommended. It is used as follows:

Paris green (pure, or to contain at least 50% arsenious acid	1 pound
Fresh lime	6 pounds
Water	200 gallons

Use no ammonia or soap. Make the Paris green into a paste before placing into spray tank, and keep constantly stirred while spraying. Spray as soon as the blossoms drop, and before the fruit turns downward. A second application should be made about sixteen days after the first, and, where required, a third and even fourth application for late varieties, at three weeks intervals. To make the Paris green more insoluble, and thereby prevent injury to the leaves, dissolve six pounds of fresh lime in water, and, when the lime has settled, add the water to the solution and keep it constantly stirred.

RED SCALE IN FRANCE.

I. J. R. sends me a paper printed in French, with an article written in Nice, France, describing an insect that is doing much harm in that country. The writer contends that they have received this scourge from America. It is working great evil in the orange groves. He says it is the Chrysumphalus minor. From the description I am sure the insect is our common red scale. The correct name is Chrysomphalus (Aspidiotus) aurantii. We can readily believe that the insect is quite as bad as the writer asserts it to be. California orchardists need not be told that this is a grievous pest. I don't see, however, how the writer knows that they are indebted to America for this unwelcome scourge. We got it from somewhere, why not they from the same place, the native home of this pest? True, we may have given them this scale, but who can tell. If France is importing orange trees from America, with no care, then she may rightly conclude that introduction from here is not unlikely. France, America, all our civilized countries may well bestir themselves, and see that no insect pests are introduced into their country, and all should unite in searching out the native home of all such species, that we might also secure their natural parasites.

M. E. Ginn, of Redlands, has bought the beautiful Slocum place at Highland, above the asylum, and will set out 40 acres more to oranges.

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Friday, Feb. 12, 1904

ITEMS OF INTEREST.

The loss by the Baltimore fire has only been exceeded in this country by the Chicago fire which almost wiped out that city. The year 1904 does not augur well for the peace and prosperity of the world. Floods, fire, war, present a horoscope which the vision of the humanitarian would gladly pass over.

* * *

When the grain-grower, the fruit-raiser and the live-stock-man get together on the matter of freights there will be something doing. They will use a double track railway across the continent as an object lesson in trade ethics for the benefit of transportation trusts and then there will be lively guessing as to who are the lords of this "land of the free and the home of the brave."

* * *

Great movements in military affairs create a larger demand for horses and mules. There will be a revival in this kind of live stock industry and America leads the world in it. The electric and caloric auto-machines will never be able to supplant the horse in war movements. The horse will soon appear in the current market quotations of the great trade centers.

* * *

We have good reasons for saying with Charles Kingsley, "Welcome, wild, north-easter," if such wind brings to us the "rain on the roof," for "every tinkle on the shingles has an echo in the heart."

One can forgive the fellow who wrote the weather forecast, which predicted a horizontal line of dryness, as now in deep contrition, he wipes his eyes with an isothermal chart. The smiles here upon the faces of men are but a reflex of the face of nature.

* * *

From a view point of sentiment, it is a beautiful thought to adhere as nearly as practicable to the lines of the paths of padres, in the improvement of our public roads, but no farther than is consistent with strictest economy. In the restoration of El Camino Real, the utilitarian idea should predominate. Build by the most direct, on the easiest grades and as durable as the Appian Way. Enough of the traditional phases could be taken in to lend a charm and preserve the old land marks, some of which are "rock-ribbed and ancient as the sun."

* * *

In the world's work, no department is making greater progress than those who are engaged in the operative lines of rural life. The principles science enter into every recognized element involved and these elements as they are discovered are no longer to be classed as insurmountable impediments, if properly understood. The reclamation of arid lands by irrigation, the reforesting of the higher ranges, the conversion of alkaline wastes into fertile fields by drain tiling, the extermination of pests by entomological science, and the specializing of the different lines—grain growing, fruit culture, stock raising, and dairying, has done wonders in the development of farming as a business. There is no field so broad, so diversified, requiring such a wide range of knowledge of nature, as the farm. Farming, so-called has taken rank as one of the leading sciences. The day of the ridiculed "Ruben" and simple minded "Hayseed" has passed. Cincinnatus holds the handles of the plow and he is not looking backward.

* * *

Japan Forces the Issue—War between Russia and Japan is now a living reality and the worse for Russia. It has been apparent, for some time, that the issue would come but it was hardly anticipated that Japan would inauguate hostilities. It seems however ,that the plucky little empire is better prepared for war than Russia, not only in a physical sense but in the ideal sentiment of the people supporting the war movement. We may expect a long drawn out seige, for although Japan may be better prepared at the outset for war the recuperative resources of Russia are so ample as to leave no question of the ability of the Empire to conduct hostilities on a prolonged basis.

* * *

Senator Bards' Irrigation Bill.—A bill of much interest will shortly be introduced in the Senate by Mr. Bard, of this State, which is of great moment to the people of California. It is a bill authorizing the California Development Company to divert the waters of the Colorado river for what is known as the Imperial country. In fact this water has already been taken from the Colorado river, and the bill is merely for the purpose of obtaining Congressional sanction to what is already being done.

The promoters of this proposition as well as those having invested in lands in the country are vitally interested in obtaining the sanction of Congress to the bill, for if it should be denied it would create complications which might prove serious to all concerned. Under the influence of irrigation there are in the Imperial district, 30,000 acres in barley and wheat and almost 75,000 acres in alfalfa corn and millet. Where two years ago not a person was living on the land, today producing such marvelous results, there is an estimated population of between 6000 and 9000 permanent population. Land bought from the Government twenty-six months ago at $1.25 per acre, on which $8.75 per acre has since been paid for water and about $5 per acre spent for leveling, is now worth, according to the latest sales recorded, $42.50 per acre. Borings made at the town of Imperial for a depth of 600 feet show that the whole floor of the desert is nothing but river silt.

"The Imperial district, says the San Francisco Chronicle, is really one of most remarkable examples of arid land reclamation by private enterprise on the continent. The belt already reclaimed is at least thirty miles long and six miles wide, all of which is bearing luxuriant crops. The transformation which irrigation has thus produced is in marvelous contrast with the arid waste in its immediate neighborhood, of which it was so recently a part. No better evidence could be obtained, in fact, than that which the Imperial district is giving of the wisdom of the Government's policy toward the arid lands of the country."

* * *

Developing Citrus Fruits.—The Department of Agriculture is making much progress in the matter of developing citrus fruits. Dr. Herbert J. Webber, of the department, has introduced what he calls a tangelo, which is a hybrid fruit obtained by crossing a tangerine or kid-glove orange with the pomelo, or grape fruit. This was suggested to Dr. Webber by the great difficulty in eating grapefruit with a spoon. The tangelo does away with this objection.

Dr. Webber pronounces the tangelo about the best fruit known. Experiments have been so successful that it will soon be put on a commercial basis. Already many growers are beginning to utilize the discovery of the department, and are now working to secure the tangelo. Practically the same methods have been used in securing the tangerine orange by crossing the tangerine with Florida oranges. A fruit larger than the ordinary orange is secured, and there is no difficulty now experienced in removing the skin from the pulp.

* * *

Farmers' National Exchange—The farmers of the Mississippi valley will meet in convention at Omaha on March 1, to organize a national exchange with a capital of fifty million dollars. The idea is to form a co-operative association to handle grain, live stock, lumber and coal, and to erect elevators and brick warehouses at convenient points to care for these commodities when the market will not permit of their immediate disposition.

This is no new suggestion. For over a year the matter has been under discussion, and it has taken form more particularly, since the owners of packing houses have treated the cattle men of the country in the unfair manner they have, as exhibited in the prices paid for beef to slaughter at their packing houses. The great live stock convention at Portland, some weeks since, started the movement by providing ways and means to build packing plants at terminal points like Chicago, St. Louis, Kansas City, Omaha, San Francisco and Los Angeles.

The time is ripe for just such a movement as the farmers are contemplating in this action. They have been preyed upon by the packing houses of the country until the cattle raising business and nearly all other large institutions have been snorn of their profits. Grain speculators, coal operators and even fruit commission firms have been all unfairly dealing with the farmers and producers, until the profits of their industries have gone to swell the emoluments of the trusts, to the lasting injury of the agriculturalists. It is time to change front. It is time for the farmers to begin a campaign for self protection. They have too long been dominated by those who will destroy them. Co-operation is the remedy and the most potent remedy to correct the evils of which they complain. If this movement should result as its promoters anticipate it will, the day of the trust tyrant in the dictation of prices it at an end. Farmers will receive what their commodities are worth, not what corporation managers are pleased to grant them. The law of supply and demand will govern, and under its operation prices will be measured and results achieved which will be just, if not always as satisfactory as could be desired.

* * *

Cattle Must Be Dipped.—The question of moving cattle from Southern California into other States and Territories over the quarantine line has been under discussion between the authorities of this State, Arizona, and Washington for some time. Of course the necessity will come from protracted drought, should that occur to the extent of the fears recently anticipated in this part of California. Secretary Wilson has informed Governor Pardee, that he will modify his ruling so that cattle may be moved to other States if they should be dipped in Beaumont (Texas) crude oil according to regulations. The Governor of Arizona has the matter under advisement and a speedy decision is expected.

EASTERN PEACHES KILLED.

Severe weather in the east is reported to have killed not only the coming crop, but many trees. These reports come from reliable authorities in several different States and tell of damage to plum and cherry trees as well as to peach trees. Reports from Georgia, Delaware and Michigan are more hopeful, although Delaware growers fear that damage has been done.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

DISCONTENT OF THE OUTS.

Friends of co-operation, and especially those who believe in the distributive control of our citrus fruits through one responsible head, must be aware of the frantic efforts now being made by those who have been frozen out for cause, to disorganize the forces which now control the fruit of Southern California. Appeals are being made to prejudice against a combination of farm interests as if it were not acknowledged by all that the farmers must organize to resist the aggression of forces that would otherwise monopolize the markets of the country to the detriment of the producer. These appeals do not stop at playing upon prejudice. They utilize every adverse market condition whether of weather or poor condition of the fruit. They distort facts, magnify misfortunes, place false conclusions and sometimes deliberately falsify conditions in order to get in a little deeper upon the ragged edge of a great business. Formerly these malcontents operated from the center and were most potent in their influence upon the movement of citrus fruits. The Cultivator has never put forth a criticism upon any responsible, helpful business enterprise. Yet, it has always been in opposition to every factor that has not earned the right to a share in the profits of farm produce by rendering some service in the distribution of such produce that could not be performed by the farmers themselves. This position is unassailable and, fortunately, its adherents are largely in the majority in more than a half dozen agricultural industries of the State. It would be useless to reiterate the fundamental priciples upon which co-operative policies rest were it not for the fact that the ostracized, unearning factors formerly operating in fruit are continually attempting to confuse the situation and tear down the organizations built to resist the inroads of the irresponsibles.

A WASTE OF GUNPOWDER.

An effort is being made to get the supervisors of Tulare county to appropriate $250 for the purpose of firing gunpowder at the blue sky, in order to make it rain. Now, if the result desired could only be brought about in this manner, the price would be dirt cheap, but the results are so extremely doubtful that were we a supervisor of Tulare county, we should hesitate long about spending the people's money upon any such proposition. Rainstorms, such as are worth anything in California, are not mere local affairs to be influenced by a cannonading, but are very elaborate matters extending over thousands of square miles, and having their origin far out on the Pacific ocean. That these can be influenced by discharging a popgun at them is a most ridiculous notion, and one which we tie ever influenced the rainfall. It is even a matter of doubt, in spite of the oft made assertion to that effect, whether the bombarding in a big battle ever influenced the rainfall. It is true that heavy storms have fallen after battles, but these always occurred where it generally rains several times a week, and is always ready to do so with or without provocation. In fact, all that was necessary in many instances was for the belligerents to prepare, and it would rain before a shot was fired, as instance, the battle of Waterloo. California is too dry a State to be influenced to rain by any artificial means whatever.

CITRUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

TROPICAL FRUITS FOR THE HOME.

Editor Cultivator: Have you or any of your readers in Southern California hand any experience with the new varieties of loquats, such as Premier, Pineapple, Advance, etc., and the new sweet varieties of pomegranates? I know of none of these varieties in bearing in this section.

Also, for family use, what varieties of oranges and pomelos would you advise for this section? Also, what varieties of olives are best for family orchard for ripe pickles and oil? Will olives bear better when two or more varieties are planted alternately?—H. G. Keesling, Edenvale, Cal.

We have had no experience with bearing loquats of the above varieties except the Advance. This variety has borne with us for several years. It is very large, a little smaller than a hen's egg, of good quality and a light amber color when ripe. We have two varieties that the Department of Agriculture at Washington, D. C., sent to the Pomona station. They have just begun to bloom. Two varieties of pomegranates were received last spring, and, of course, are not yet in bearing. We have two very good sweet sorts that have been bearing for seven or eight years. They are Spanish Ruby and Sweet Spanish. The latter is very large and later than Spanish Ruby. Both are of fine quality. Mr. C. P. Taft, of Tustin Orange county, has a tropical situation in which he grows all sorts of exotic fruits, and he may be able to enlighten you on these subjects.

We would suggest that you try the Washington Navel, Parson Brown and Valencia Late oranges. St. Michael is a very fine late variety, smooth and firm as a well-grown lemon. Marsh's Seedless Pomelo is the best on the market. It is of good flavor, practically seedless and consequently agreeable and convenient to eat.

There is no olive that will fill the bill better for oil and pickles, than the Old Mission olive. It sells in the southern market when the other varieties are either a drug on the market or are spoiled. There are several larger varieties that are excellent when first cured, but they are difficult to keep and packers are afraid to risk them. Sevaliano is the largest olive grown, and is usually pickled green. Ascolano is another that is used the same way. These two are the best of the large kinds, being the largest and having firmer flesh than any of the other large kinds. Santa Caterina is an excellent medium-sized variety, averaging about the size of a good Mission olive. It is heart-shaped and light amber color when first turning, and makes a good pickle. But is not as good a keeper as Mission.

Olives bear better when varieties are mixed in the orchard, and it is important that the rows containing one variety run crosswise with the direction from which the prevailing spring winds blow, though bees are important factors in cross pollination of the olive. It is true that olive trees, and especially the Mission, have been known to bear almost regularly, even when single trees were isolated. The safest plan is to have them mixed with other varieties. Rubra is a good variety to plant with Mission. Santa Catrina is another.

* * *

GRAFTING OLIVES.

Editor Cultivator: I have about 200 olive trees, from 4 to 8 years old, that I want to graft or bud with a different kind. Please let me know what is meant by machine grafting, and how it is done. Do you think that bark grafting is better than splitting the stub, and do you think it too severe to cut the whole top of an olive off at once, or is it better to graft or bud half this year and the other half next year?

A great many olives of a poor variety have been planted in this vicinity and a good many growers are anxious to change them.—J. E. Rutherford, Wyandotte, Calif.

By machine grafting we mean grafting when the cuts are made by a mechanical contrivance. The construction of the implement is simple. One part is made with two steel knife blades welded together, so as to form an angle of about 15 degrees. This is brazed onto a piece of steel heavy enough so that it may be struck on the back with a hammer and not be injured. After the branch is sawed off, the implement is placed with the wide part of the angle just above the end of the stump. This makes the instrument in line with the limb that is being grafted. It is struck with a hammer, so as to cut into the bark and sapwood to a depth of about a quarter of an inch. The whole thing is then forced up, which takes out a wedge-shaped piece of wood and bark. Another implement, made in the shape of a pair of pinchers, which cuts the end of a scion at the same angle as the wedge-shaped piece that is removed, will make the work rapid and accurate. We have seen grafts put into large branches by this method in May, and a good stand was secured without the use of wax. This is not advisable, as wax insures a better stand of grafts. The cambium layer of the stock and scion should be matched.

It is best to remove the entire top of the tree at one time, and start the whole new top at once. It does not injure the tree and makes a better job. The idea that removing part of the tree at one time is better than taking all the top off at once, is erroneous. It is the second removal within a year or so that taxes the vitality of a tree. The grafting should be done when the sap is running rapidly. It may be continued well into May and even later.

REMARKABLE YEAR FOR FRUIT.

Horticultural Commissioner Cundiff of Riverside County has just completed his report for the year, which has much of interest in it. He is enthusiastic over the fact that both citrus and deciduous fruit has turned out better than anticipated. The following figures taken from his report show what has been done in various lines of fruit and vegetable culture. During the past three years Coachella shipped 97 car loads of grapes and melons, Banning sent out 1000 tons of cured fruit, 16 cars of egg plums and 25 tons of almonds and walnuts. San Jacinto sent to market 700 tons of canned and 1350 tons of cured fruit; Hemet and Valle Vista had 100 tons of dried apricots and peaches. The total grain production of the county amounted to 500,000 sacks. There were 5000 cars of oranges and lemons from Riverside; 934 cars from Corona; 50 cars from Moreno and 19 cars from Hemet and Valle Vista. He shows that 8368 acres of orchard have been inspected, and over 3000 acres sprayed with distillate emulsion at the expense of the owners. Fumigation for red scale, spraying for blackscale, and whale oil soap emulsion for brown scale were the methods of treating the orchards.

A HARDY ORANGE.

If we are to rely on Washington dispatches a somewhat reliable orange has been produced by A. F. Woods, the vegetable pathologist and physiologist of the Department of Agriculture. The orange is desirable for the reason that it is hardy enough to resist frost and cold weather. The drawback to the fruit is its acid character, being more sour, it is claimed, than the lemon. The promoter of this orange has been trying for some years to hybridize an orange tree that will withstand the killing frosts and he seems to have succeeded except as to the acid nature of the fruit. He thinks, however, that this drawback to the commercial value of the orange may, in time, be overcome by crossing with best varieties of the sweet orange.

The Riverside Press states: The Western Orchards Produce company that shipped twenty-seven cars of Riverside navels to England this season, has just received word that the first shipment has reached its destination and the fruit is in first-class condition.

The rains are booming planting in the San Jose valley, and all nurserymen are crowded with orders for fruit trees.

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CALIMYRNA R FRESNO

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NAVELS

VALENCIAS

Strong, thrifty growing trees, absolutely true to name.

Mr. H. D. Blanchard, Covina. Covina, Jan. 1, '04.

Dear Sir—Regarding the orange trees purchased of you last spring I wish to say that after a summer's growth I can commend the stock most heartily, for the growth has borne out to the fullest the promise of the fine-looking stock which I bought. I will be pleased to show these teees to any one who will call. G. B. SMEE.

More and better trees for sale this year at a very low price.

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A WORD ABOUT FIGS: We sell the genuine Fig of Commerce. Our cuttings came from bearing trees in the orchard of the Stanford estate, near Vina, and the fruit from these trees, after being examined by the best fig experts of the State, is pronounced the genuine Fig of Commerce, the Lob Ingir. Dr. Eisen says this and no other variety should be known as Smyrna, if the name Smyrna is to be used at all. We can refer prospective purchasers to the Supt. of the Stanford ranch, at Vina, for a verification of this statement. As to my own reliability, I can refer parties to any of the leading merchants of Corning, and to the Bank of Tehama County, and the Herbert Kraft Co. Bank, at Red Bluff, Cal. No one in the Unites States originated the Commercial Smyrna Fig. It is a variety which has been grown in Asia Minor for thousands of years. Parties may originate a fancy name and copyright it, but this does not make the fig they sell under a copyrighted name, any better. The fig we sell does not require a high sounding name to make it appear as the only commercial fig. All that we claim for our fig is that it is known as the Lob Ingir, the cuttings of which came originally from the famous orchards of Smyrna, Asia Minor, and is of the variety so largely imported into the United States in the dried state. We are not charging you for a private copyrighted name, but we sell you good 2 to 4 foot trees of the Genuine Smyrna Fig of Commerce at $150 per M. To fully demonstrate the methods used by some nurserymen in giving old varieties of fruit trees a new name and thereby make it appear that they have the only genuine article, we will say, how ridiculous it would be if we copyrighted a name like "Muro" and sold the old variety of Muir Peach under this name. Do not be misled by copyrighted names. We have the genuine Smyrna Fig of Commerce and if you want to confirm our statement, we do not hesitate to refer you to the above named parties. We can supply prospective planters a small sample of our dried figs for comparison with the so-called copyrighted figs. We also have for sale all varieties of Capri Fig trees, and all of our customers will be supplied at the proper time with a colony of Fig Wasps, free of cost. Address

W. Herbert Samson, Prop., Corning, Tehama Co., Cal.

When writing to Advertisers Please mention Cultivator

Conducted by PROF. A. J. COOK, Claremont, Cal.

BEE KEEPING.

(Concluded.)

The Hive.—To start right is most desirable. The greatest need in starting is to secure a good hive.

A good hive will permit the bee-keeper to thoroughly examine his bees at will and to inspect every part of the hive. This can be done with no danger of stings; and it is necessary to the best success and to the best pleasure and the opposite makes the bees a menace to the public. Thus box-hives, such as were used in the olden times, are really a nuisance, and may and should be so declared by the best moral sentiment, if not by law. Else that worst disease known to bees, "foul brood," may come and work fearful havoc and no one know ought of it. No box hive should be tolerated in any bee keeping community. Only the "Moveable Comb Hive" should ever be used

* * *

THE BEST HIVE.

I have no hestitation in commending and recommending most emphatically the "Eight Frame Langstroth Hive" as decidedly the best for the beginning bee-keeper. This is the oldest of the improved hives, and is by far the most in use by the most advanced bee-keepers of all the improved hives. The very fact that it has held its own is proof that it is one of the best, if not the very best hive in use. Again, the beekeeper will wish occasionally to sell or buy more colonies of bees. In such case he will be able to buy or sell more advantageously if his hive is the hive most in use. No bee-keeper can ever afford two kinds of hives in his aviary. It would be a great gain to the beekeepers of the country if all could be persuaded to use the same kind of hives. The beginner then will make no mistake in procuring the Langstroth Frame hive.

It is always best to buy the hive of some reputable dealer. The hive must be very accurately made, as a misfit is a great nuisance. It will usually be cheaper to purchase, and there are usually dealers near by in every bee-keeping locality. I would have the hives painted for looks, as except for looks it will not pay to paint.

* * *

Wild Bees.—By this term I refer to others than hive bees. Bees are usually more hairy than are wasps. They always use pollen to feed the young and have broad hind legs, on the outside of which they store the pollen, that it may be carried to the nest. This wide, smooth hind leg is the mark that enables us to distinguish the bees from the wasps. The hind legs of the latter are slim and usually hairy. Most bees are solitary and live in similar nests to those of wasps; as in earthen tunnels, hollow stems, borings in wood, etc. Thus we have mason bees and boring bees. These carpenter bees are not rare here in California. If they bore into our houses, as is not uncommon, a mixture of kerosene and lard pushed into their tunnels, will quickly smother them. The tailor bees often cut the circular and oval pieces from the rose leaves and rose petals with which to fashion their paper cells. In these they store their pollen and lay the egg, and close all that the larva may be safe and well fed during all its babyhood.

The bumble bees are social and have very long tongues and so are very useful to pollinate red clover and other long tubed flowers. These bees are like the honey bees and the wasps in having a queen that lays all the eggs, the drones or males that do no work, and the workers. These latter die off in the fall and the queen, probably the young queens, alone survive the winter. In the spring she does all the work for a season till the workers are reared, when they do the gathering and nursing and she is limited to egg-laying. We thus understand why we see only large bumble bees in the early spring, and only smaller ones later in the year.

It is a well known fact that the first crop of red clover does not seed well in the east. The reason is evident. The deep flower tubes are too long for many insects and the bumble bees are necessary. The few queens are insufficient, and so for seed we must wait for the second crop, when the more numerous workers can properly pollinate the flowers, and a good crop of seed is secured. It will be remembered in this connection, that when red clover was taken to New Zealand there were no bumble bees there and it was found that the clover did not seed. Bumble bees were secured and abundant seed was then raised. The first crop of alfalfa seeds well, as the honey bee can pollinate that, and there are always plenty of honey bees for such work.

* * *

THE LINNET AND THE BEES.

Mr. R. B. Herron, of San Bernardino county, writes me that the fruit men are contemplating putting out poisoned water to kill the linnets to save their apricots. He fears that this would poison the bees and is considering an action at law against any who may do so. He asks my opinion. I urge that the linnets are a serious pest and should be killed. But I further urge the self-evident truth that no right-minded man would think or consent for a moment to do this if in so doing he would injure the property of another. I suggest that a meeting be called for conference, and promise to be present, if such action is taken. Mr. Mills, of the Ontario Experiment Station, tried this method to fight the linnet pest, and succeeded. He recommends it to others. He certainly would not do so if he had the least idea that harm to any one would come of it. Mr. Mills is also too cautious and able an observer to advise without good reasons. Bees are directed in their quests by odor. Water has very little or no scent. Is it not possible that water hung in trees would be found by the linnets, quaffed, and its work done before the bees had found it at all? Knowing the habits of bees as I do, I should expect just this. It would be easy for Mr. Herron to determine this and so help bee men and fruit men alike. This and the conference would be most wise, and worth more than the cost. I have great hopes that this method can be used and no harm done to any body.

* * *

DECAYED FRUIT AND BEES.

A. B. Judson, Escondido, wishes to know if it will injure his bees to work on decaying pears. Even when ripe they seem to prefer the decayed fruit to the sound. If not injurious is it nutritious? "I have your beekeeper's guide, but find no mention of this." In California I should fear no harm. As I mention in my book cider is thought to be harmful in case of long winters, where bees are confined a long time to the hives. Without doubt the bees do get some nourishment from the fruit. If it were easy, I should prefer to keep the bees from such food, but here I should take very little trouble in the matter. The very fact that bees are eager for such food, when they can get no nectar from the flowers and are always after it as opportunity offers, and yet suffer no harm, is evidence enough that we need not worry about it. It seems that there must be some element of the decay that meets a need of the bees.

* * *

POLLINATION AND FERTILIZATION.

Subscriber, Monrovia, wishes to know if these two terms mean the same thing. They do not. Pollination refers to the transfer of pollen from the anther of the stamen to the stigma of the pistil. Often for seed production this pollen must come from a different flower than the one that is to receive it. In this case the wind or more generally insects, must be present to carry the pollen or there will be no seed produced. Pollen must be on the stigma, or there never will be any seeds developed from the ovules. After the pollen grain is on the stigma, a tube grows from it and pushes down to the ovule and fertilizes it. Pollination is necessary to fertilization, and must precede it. Fertilization and so pollination is necessary to seed development, and usually to the production of fruit. The Navel orange develops without seed. Imperfect fertilization often results in deformed or imperfect fruit. We see this illustrated in the imperfect strawberries, which are not uncommon. As each strawberry has many seeds, so many fertilizations are necessary, and if some are omitted then we will secure deformed strawberries.

* * *

INFLUENCE OF FOGS.

Miss E. A. Ward, Carpenteria, wishes to know if she is correct in the opinion that fogs do not contribute to the moisture of the growing beans, but only aid by preventing "transpiration." She is wholly correct. The plant gets all of its moisture from the soil and much of this goes to the leaves and passes off by transpiration or evaporation. The amount of moisture that passes off in this way is almost beyond belief. Tons of water pass from our orchards every day in the growing season. Our dry atmosphere favors this escape of moisture. If then, there is a scarcity of moisture in the soil, as there is apt to be in case of irrigated plants, any thing that lessens this transpiration is of great benefit to the plants. The fogs tend greatly to restrain evaporation, or transpiration, as the scientist calls it, and the plants are materially benefited. The fogs then aid the plants by conserving the moisture, and not by directly giving them of their water. Much of the vegetation of arid regions looks to the saving of the water by restricting the amount of leaf surface. Thus we have the limited chlorophyll surface of such plants as the yucca, cactus, and century plants.

* * *

LOCUSTS.

H. E. Belfield, Norwalk, wishes to know if the finding of two locusts in his garden should arouse anxiety. Do these suggest the probability of a plague the coming season? Mr. B. need feel no alarm at all. It is always possible to find locusts at this season. I use locusts for my class work, and always find it easy to secure fine large specimens, each season, in late winter and early spring.

* * *

ORANGE APHIDS.

Mr. Thomas Stone, of Pasadena, sends citrus leaves with insects, which arouse his curiosity. He asks if they mean harm. These are the orange plant lice and are on the citrus trees more or less each season. A parasite, a Braconid fly, holds them in check so that they do little damage. This dry weather favors red mites, thrips and these aphids. We have more than one reason for hoping that a good down pour will come and give the greatly needed relief.

* * *

PASSION VINE CATERPILLAR.

I receive through Mr. Mills, from Mr. Bonine, Lamanda Park, the inquiry, "Will all varieties of Grandilla suffer from the caterpillar of the Passion vine butterfly?" I have experience with only the two common ones, the blue and the red. These both suffer, and I presume others would. Will any that have experience give the facts?

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BY J. W. MILLS, ONTARIO, CAL.

SAN JOSE SCALE.

Editor Cultivator: Will you please publish in the Cultivator a brief history of the San Jose scale, the most effective spray, how to make it and how to apply.—J. G. Whitney, Los Gatos.

The San Jose scale was first noticed in California by fruit growers at San Jose in 1880. It was recently discovered that the original home of this insect is in China to the south of the great wall. It was imported into California some time previous to 1880. Until the lime, sulphur and salt wash was discovered, it was considered the worst enemy of the deciduous fruit grower.

This wash is made by boiling about 20 pounds of sulphur and 20 pounds of freshly slacked lime in about 30 gallons of water for an hour and a half. This will thoroughly dissolve the sulphur, if the best grade of sublimed sulphur is used. Then add two pounds more of freshly slacked lime and 15 pounds of stock salt and boil for half an hour longer. When spraying for San Jose scale, make this quantity up to sixty (60) gallons and spray either hot or cold. When a large quantity of this material is used, it will pay to fit up some barrels and cook it with steam which may be conveyed into the barrels by pipes coming down from above and connected with a boiler. The steam pipe may run overhead and directly over each barrel. Pipes are brought down into the open tops of the barrels so that the lower ends will come to within a few inches of the bottoms. When the barrels are filled up with the stuff and the steam is turned on, it will cook from the bottom up.

When the scale has attacked but a few trees in an orchard, it is well to mark them and spray them before the main orchard is begun. When the whole orchard is sprayed, give these trees another dose.

It is a good idea to add about six (6) pounds of blue stone to each sixty gallons of the spray. This will destroy a great many spores that will otherwise do much damage.

* * *

PECANS FOR STREET TREES.

Editor Cultivator: I am in search of information in regard to pecans I have seen in Los Angeles in a confectioner's window. There were a quantity of whole pecan kernels. It has been my experience that but few perfect kernels may be taken from the nuts. Are there varieties from which the kernels may be easily extracted?

Some eastern catalogues recommend the pecan for a street tree. What do you think of it? Please let me know if you know of bearing pecan trees which have nuts from which the kernels are easily extracted.—W. T. C., Riverside, Cal.

There are a number of varieties of pecans whose nuts produce whole meats. In Texas and Louisiana there are large establishments which turn out tons of them every year. They have a special machine which squeezes the nut endwise. The nuts are sorted into sizes and the machine is adjusted to suit the different sizes. Dr. Wm. R. Taylor, of Washington, D. C., can give information on the best varieties of pecans. He recommends Stuart as one of the best. This is a nut that Mr. W. R. Stuart, of Ocean Springs., Miss, secured after much trouble and expense. It is described as a "good cracker," good quality, with plump kernel. The nuts of this variety run about 25 to the pound. The parent tree of this variety was located in the swamps by steamboat captains, who purchased all sorts of nuts from people who brought them in, the project being engineered by Mr. Stuart. Dr. Taylor is now preparing a bulletin on the pecan and we assure our readers that it will contain interesting accounts and much valuable information on the pecan.

The pecan makes an excellent street tree. There is one growing in a side street about a block west of the Riverside city park. The tree is about sixteen years old and has a diameter of about 18 inches and is fully 40 feet high. The owner is very proud of it and thinks it is an excellent street tree.

* * *

PLUM ROOTS IN WATER.

Editor Cultivator: Will you please tell me whether peach roots budded on Myrobalan roots will grow on sandy land where the water raises within a foot or a foot and a half of the surface for about two months, June and July? The water gradually falls until at this time of the year the water is four feet lower. Will you also tell me whether black bass will do well in standing water which is nine feet deep and covers six or seven acres? The flow is all underground. Where can I get some of this kind of fish?—R. Wells, Selma.

We would not recommend planting stone fruit on the land which you describe. The rise of water comes at the wrong time of year. Pears and quinces may do well on that land; at any rate they will thrive better than stone fruit trees. We have seen old pear trees standing in snow water from before they came into bloom until the fruit was half grown and thrive. These trees, however, grew up under different conditions though the roots were always either in or very close to the water.

It is our opinion that black bass would live in the pond you describe, but for definite information you had better write to the State Fish Commissioners. They can also inform you where the fish may be obtained.

* * *

WHITE MULBERRY.

Editor Cultivator: Can you tell me where I could find "white mulberry" trees for silk culture? I was told that by writing to the Department of Agriculture I could get some.—E. Schneider, Westminster, Cal.

Any of the seedmen or nurserymen advertising in this paper will furnish you with trees or cuttings of the white mulberry. If you insist on being given the true Morus Alba (the white mulberry) you will get what you want.

* * *

TROT OUT YOUR GRAPE VINES.

Mr. J. M. Robinson, of Moorpark, Ventura county, says some one in Riverside mentioned that he was growing Cornichon grapes, and Mr. Robinson wants his address, as he wants a quantity of cuttings of that variety. We cannot find this item, so if the gentleman will drop us a card, and save his cuttings, he will help himself and another man.

TO PREVENT WALNUT BLIGHT.

The United States Department of Agriculture has sent out a bulletin, or rather, made some recommendations relative to the prevention of walnut blight. In this bulletin it is suggested that all infected trees shall be pruned closely. Cut away the diseased parts and the limbs which show the blackened scars of the past year's disease. In brief remove all traces, so far as possible, of the disease and burn all cuttings.

Spray the dormant trees thoroughly with bordeaux mixture two weeks before spring growth begins. All portions of the tree should be treated. Spray again as soon as the nuts are firmly set.

Use the following formula: Five pounds copper sulphate, five pounds good quicklime, fifty gallons water. Slake the lime in an oak barrel and add enough water to make twenty-five gallons milk of lime. Thoroughly dissolve the copper sulphate in an oak barrel containing twenty-five gallons cold water. Continue to pour one pailful each of milk of lime and copper sulphate solution simultaneously into a third oak barrel, holding fifty or sixty gallons, until all of the solutions are thus united. Stir the milk of lime as it is dipped out and pour it through a fine wire strainer into the mixing barrel. Use while fresh.

JURUPA NURSERY CO.
Growers of Deciduous, Citrus and Ornamental Trees and Vines
THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
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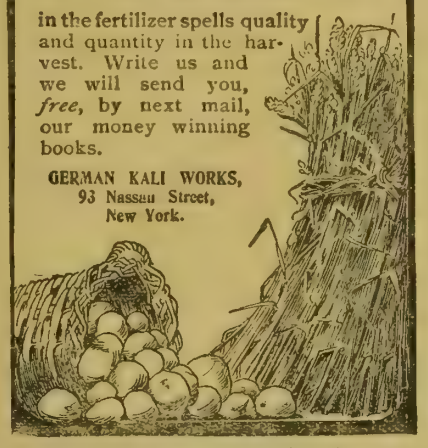
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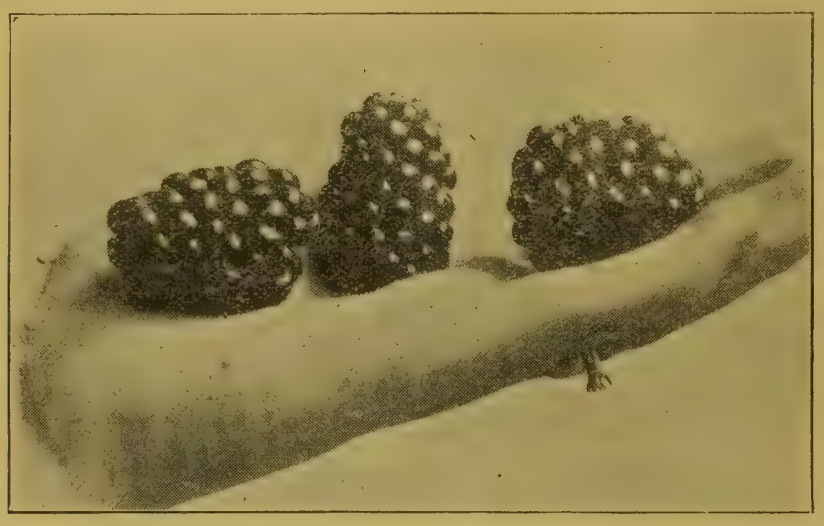
The Gardena Dewberry

A. R. Rideout of Whittier Tells the Why and the How of the Famous Profit-Bringing Berry.

When I first heard of the Gray Gardena dewberry and the wonderful results obtained from one-half acre—$800 gross, or over $500 net—my curiosity was aroused and I was not content till I owned a patch of them myself. I could see a small fortune in them. Mr. V. W. Gray, son of the man who first introduced them, owned five acres at Whittier, Cal., which were planted less than one year when I purchased the patch, paying over $1100, for the plants on leased ground for two years, besides $50 each year to the owner of the ground.



A LUSCIOUS HAND-OUT.

My friends thought I was making a mistake, but it has proven to be the best investment I ever made. I then purchased five acres joining and set it out to dewberries. Then securing a photograph, of which the large cut on first page is a reproduction. I started out to canvass and with the help of the picture in a few days had sold several hundred dollars' worth of plants, selling them readily for one dollar a dozen, five dollars per hundred, and twenty-five dollars per thousand.

When my berries began to ripen I went to see the neighboring patches. In my visitations called on Mr. Rains, of Signal Hill, who had two acres. He was well pleased with the prospects before him. Said he: "I have sold all my plants and am taking orders for next year." Then turning rather suddenly, he said: "Come! I want to show you something very peculiar." I followed him a few feet, when we came to some vines which did not look like the rest. They were of a darker color. The leaves more irregular and of a more ragged nature, resembling in shape that of a grape.

The berries were smaller and not properly fertilized, showing distinctly two different varieties. I went wonderingly home and to my sorrow found the same state of affairs to exist in my own patch, but with the help of a shovel and hired man dug them up root and branch. So completely did we eradicate them I could not find a branch or leaf, though I looked several hours to get one to photograph with the other kind to show the difference on this page.

The nature of the Dewberry is to creep on the ground, so do not string them on poles or wires six feet high or more. I don't approve of using wires at all, for I consider it a needless expense, and a never-ending job (perpetual motion demonstrated). Never wire these berries up unless on glaring sandy soil where the sand would be liable to scald the berries if close to the surface.

The Gardena dewberry proper is a marvel. Its fame spreads like wild fire. I have already shipped plants to several eastern States and before the season is over expect to ship to almost every State in the Union.

It is noted for its vigorous plant growth, frost and disease resisting qualities, certainty of crop, and enormous yield of large and early berries.

A patch in full bloom is a beautiful sight to see, resembling snow. Every bud that starts pushes itself to the surface and above the plant growth, thus making picking a very pleasant task.

Planting.—The best time for planting is in February; March is very good; they will grow when planted in April, with fair returns. Do not plant extensively in May, though a few may be planted in the garden. First get good, strong plants, having been planted for that purpose, not ends or pieces of vines, with a few roots hanging to them like filings to a magnet.

The rows should be five feet apart and plants two feet in the row; throw a furrow each way, break off the stem, place right side up, spread out the roots naturally and cover four inches deep with hoe or plow. Run the water down the furrow immediately after planting. Irrigate every few days until the plants get well started. In a short time the plants will be up and form a shade which will keep the ground from baking. Throw the vines over each other, keeping them in rows two feet wide. Cultivate when needed, keeping the weeds down.

To secure plants, bury the ends of the vines about the middle of October and you will raise 15 to 20 tips to every mother plant. Very little trouble to raise plants.

Care.—Do not trim the vines at all, only keep the suckers cut down during berry season as this facilitates picking and adds strength to the vines. When the crop is harvested, secure a large hoe, cut them off even with or just below the ground, leave the vines where they fall, just as they grew; the new shoots will soon be up and cover the old vines, which form a trellis, but should the vines be infected with scale or disease, run a furrow by each row and bury them.

The berries themselves resemble a blackberry, being much larger and fewer seeds. They are inclined to be a little tart, thus making them a most excellent berry for canning, pies, jellies, etc., but when fully ripe they make a tempting dessert, served fresh with sugar and cream.

They begin ripening in the latter part of April and early May, thus securing the highest prices. This compels the blackberry to take a back seat or go to the cannery. They are a firm berry for shipping. Last year I shipped to Albuquerque, New Mexico, with pleasing results.

Some say, "Will not this business be over done." You can raise dewberries for 60c a crate (3-4 lb. boxes) and then make money.

A Few Don'ts.—Don't throw your gloves away when a hole wears in them, just mend it with tire tape.

Don't think you are saving money by saving water.

Don't forget to order an extra paper of this issue and send to your friend.

Don't put off ordering your plants till late in the season; they will grow then, but don't like to.

Don't forget the address, A. R. Rideout, Whittier, Cal., the place to get the Improved Gardena Dewberry, at a reasonable price. Questions gladly answered.

Special inducement to nursery men.

THE WAY THEY GROW.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 Gold Ave., Los Angeles.

COUGH AND JAW SWELLING.

Editor Cultivator: I should like to know what to give horses afflicted with severe cough accompanied by discharge from nostrils and general prostration.

Do you think it advisable to bring swellings under the jaw or on the neck to a head by the use of liniment? If you advise the use of a liniment, what formula can you give for such liniment?—Subscriber, San Jose.

For cough give the following: Chlorate Potassium 8 oz., Muriate Ammmonia 8 oz., Licorice powder 4 oz. Dose: Give dessert spoonful on the tongue or in bran mash twice a day. The swelling should be brought to head. Use the following liniment rubbed well in once a day: Equal parts of aqua ammonia, turpentine and oil. Shake before using.

* * *

SLOBBERS IN HORSES.

Editor Cultivator: I have a mare that slobbers very badly and has been doing so for several months. Her mouth is cut some by barley beards but I think this does not affect her very much. I clean out the beards often. She slobbers more when she has the bit in her mouth. I feed mostly barley hay, with a little alfalfa for a change. Kindly advise through the Cultivator.—Subscriber.

Use a wash of two drams of powdered alum to a quart of water. Feed alfalfa until mouth gets entirely well. It may be that some defect of your horse's mouth was overlooked at the time of operation.

* * *

FEVER FROM CALVING.

Editor Cultivator: I have a Jersey heifer that came fresh about three weeks ago, but did not clean properly. I have given her salts, and condition powders, but she does not seem to improve any. She has very little appetite and her milk has a feverish smell. What can I do to help her?—R. W. Barkham, Oakland, Cal.

Wash uterus out well twice a day with solution of one oz. of crealin to one quart of water. Treatment, internally: Give four drams of tincture nux vomica with four drams of tincture of gentian at one dose three times a day.

* * *

Editor Cultivator: In the California Cultivator, Jan. 15, under the title of warts you speak of chromic acid. I have a yearling which has perhaps 75 warts on the body. What medicine can be given internally to good advantage?—Chas. A. Miller, Pomona.

Try the chromic acid as recommended in Cultivator. You can give ½ dram doses of iodide potassium night and morning.

The Santa Fe will shortly inaugurate a new scheme for tracing cars of freight between Los Angeles and San Francisco. The idea, if extended to fruit cars en transit to the east, will be of great value as the location of cars can be determined at any time, also the date of arrival to points of consignment can be known to shipper.

CITRUS TREES

All the leading varieties. This stock is the cleanest and finest grown. Can fill any sized order and will guarantee satisfaction in price and quality. Write for further information.

W. G. HALL - GLENDORA, CAL.

"He who plants a tree plants hope."—LUCY LARCUM.

But

He who plants Citrus Trees grown by the San Dimas Citrus Nurseries—the largest producers of orange and lemon trees in the world—plants the nucleus of a competence. Why? For the simple reason that their trees are grown with the sole object in view of bearing regular and profitable crops for their owners. Since their citrus nursery stock finds a a market wherever the orange luxuriates, the truth of the above statement is amply verified.

Plant Citrus Trees Now

Because then they will get the full benefit of the spring rains, which will cause a strong growth with the advent of warm weather. Besides, to place your orders early means that you will be sure and secure a good selection of trees, both as to varieties as well as to quality.

Interested, Are You?

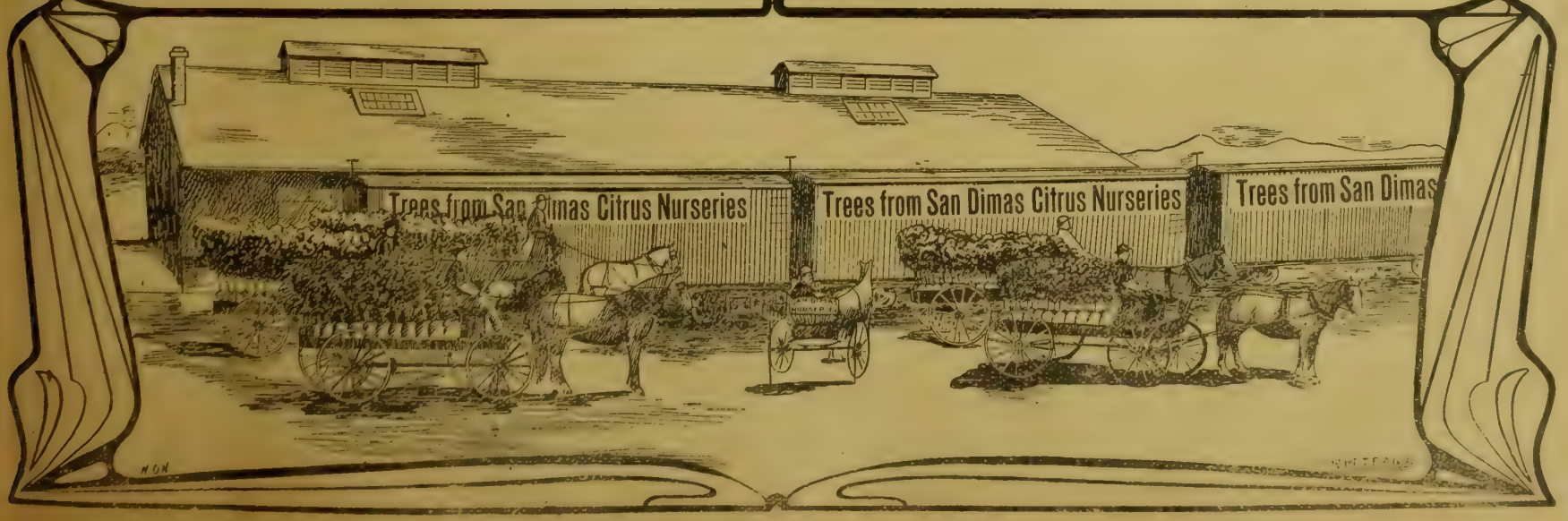
Then let us get together and talk trees, fruit and methods of planting and caring for an orchard. Remember, correspondence with us is a pleasure when it implies that you contemplate planting citrus trees. Having made citrus tree growing an exclusive business, and the study of orange and lemon culture almost a life work, we believe that we can offer you better trees at more attractive prices than anyone else. A letter may strengthen this view with you. Our pamphlet on the orange and the lemon is yours if you mention this advertisement when you write.

The San Dimas Citrus Nurseries

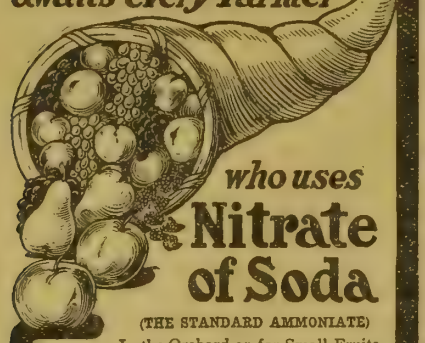
R. M. TEAGUE **SAN DIMAS, CAL., U. S. A.**

Our Business is a Growing One, and Yours will be If you Plant Trees Grown by Us. . . .

Our Trees go and Grow all Over the World where Citrus Fruits Flourish. Send for our Monograph; it 's free. Write today.



The Horn of Plenty awaits every Farmer



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In the Orchard or for Small Fruits, for Grain, Grass, or Vegetables, results are certain. 100 pounds per acre, used as a Top Dressing for a growing crop, with or without the use of other fertilizers, will yield results that will be to the farmer like Finding Money. Send name and complete address on Post Card for my new Bulletin, "Food for Plants."

I have nothing to sell; no catalogues. I am simply publishing information of Experiment Station Results from the use of Nitrate of Soda, and giving it free.

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12-16 John St,, New York.

S. J. Smith, the Lambert engine man and dealer in pumping machinery, wind mills, etc., has found the increasing business demands calls for incorporation. The corporate name is The S. J. Smith Machinery Co., with place of business at 129 North Main street, Los Angeles.

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Extra select, home grown, all sizes
Fruit, shade Trees, Plants, Seeds, Bulbs

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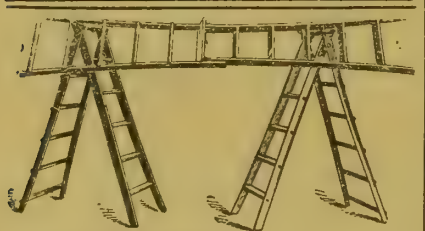

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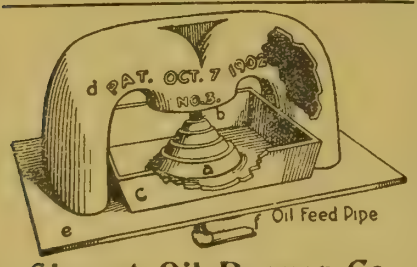
GEO. H. MARSH, Pomona, Cal.



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THE

Vernon Nursery

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LOS ANGELES, CAL.

Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.

We still have a few of the finest two-year-old walnut trees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

A. YARNELL,

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4524 CENTRAL AVENUE
LOS ANGELES, CAL.

Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

LIVE STOCK.

An experimental auction sale of registered short horn cattle will be held at Spokane, March 8th, which, if it proves successful, will be made an annual event.

The Norwalk Call states that Sessions & Platt, proprietors of the Belle Vernon Farms Company, have purchased the creamery at Studebaker.

The Southern Pacific railway are after cattle shippers, who, it is alleged, have shipped out hides with cattle consignments, using them for bedding.

The bonds for a union high school at Gardena have been defeated.

Governor Pardee has been ill for a week with a severe attack of grippe.

Riverside will have at the St. Louis fair a mammoth irrigation display.

The government has sent to the Indians at Martinez a half carload of farm implements.

The San Diego Rochdale Company at present writing has 227 members, and more are joining daily.

Mr. Simon Stiffler has sold his ten-acre ranch near Carmenita to Mrs. Martha Meeker of Long Beach.

The third annual convention of California Federated Women's clubs has been held in Sacramento this week.

San Diego will have at the St. Louis Exposition one carload of minerals and four carloads of oranges and fruit in glass.

The Iowa Society of Southern California will meet in annual picnic on the 22nd of February. at East Lake Park, Los Angeles.

Hollywood will vote in March on a proposition to build a high school to cost $65,000, and two grammar schools to cost $15,000 each.

The will of Dr. John I. Baty, of San Jose, bequeaths $12,000 to the president of the Santa Clara College, in trust for religious and benevolent objects.

Statistics collected by the California Promotion Committee show that California has made marvelous gains in population since the census of 1900.

The successful oiling of California highways has suggested the possible oiling of irrigating canals to make them hold water better and so avoid losses by seepage.

The S. P. Company and the city of Santa Ana are in a controversy as to which owns certain railroad crossings. The company proposes to fence them up and let the courts determine the matter.

The Hanford Sentinel says that Frank Blakely commenced this week the seeding of ten sections of lake land, at the mouth of Kings river, to wheat and barley.

The Pacific Transportation Company of San Francisco, have decided to lay a pipe line from the Coalinga oil field to Antioch, a point on the Suison bay, from which San Francisco bay can be reached by boat.

Los Angeles County will have at the St. Louis Exposition two cars of fruit in glass, canned goods, nuts, wines, vegetables and statistical matter; one carload of minerals and one carload of orange trees, palms, etc.

Tulare County has decided not to send its collection of fruits, grain, etc., to the St. Louis Exposition, owing to the ruling of the management that no advertising matter will be allowed to be given out with the display.

Los Angeles, the second largest city in the State, had in 1890, a population of 50,395; in 1900, 102,479. The population of Los Angeles in 1903, as given by the clerk of Los Angeles County, is estimated at 150,000, an increase in the three years of 47,521, being 15,840 each year, or three times greater than the yearly average for the ten years previous.

The Coachella Valley Producers' Association held an important meeting Saturday at Coachella. A large representation of melon growers responded. The consensus of opinion was that the acreage of melons this season will be largely in excess of last year.

Orange County will export for exhibition at the St. Louis fair, one carload of fruit in glass, grains, nuts, chili peppers ,and other miscellaneous products. Ventura will exhibit beans, minerals, grain and nuts. Santa Barbara County will show palms and exotic plants, fruit in glass, grain and oil.

A meeting to consolidate all the co-operative agricultural interests in the Mississippi valley will be held at Omaha, March 1st, the new organization to be known as the National Farmers' Exchange, with a capital of $50,000,000. From a knowledge of some of the leading men behind the project we do not believe it will be a success.

It is estimated that San Francisco alone has increased in population over 100,000 since 1900. A conservative estimate places the city's population today at 450,000. This is exclusive of the bay cities immediately adjacent to San Francisco, the population of which can be safely estimated at 150,000, making in all 600,000 people about the bay of San Francisco.

Should the Frye bill, now before Congress, pass, the probabilities are that great cordage manufactories will be started on the Pacific Coast. The bill provides that American commerce with the Philippines be carried in American instead of foreign ships. As the available American ships are all on the Pacific ocean the shipping of Manila hemp will be transferred from the Atlantic to the Pacific Coast.

The population of California in 1900 was 1,485,053, showing an increase over that of 1890 of 276,923 and, assuming on a conservative estimate based on returns already received that the population of the State has increased 20 per cent since 1900, an increase would be shown of 297,000 for the three years, or 20,000 more than the total increase for the ten years previous. At this rate, the population at the time of the census of 1910 will be approximately 2,500,000.

Consumption of oil as fuel on the Santa Fe will be increased between 30,000 and 35,000 barrels a month by the end of February, when the company will have in service several of its new, monster freight engines, forty-five of which have been consigned by Chicago headquarters for service in the company's local jurisdiction. The district between Winslow and Seligman, in Arizona, is the last to be equipped for oil burning, and all the new machines will be in shape to handle the soft fuel.

Somewhere in the White Mountains of Arizona, near the Indian reservation, is a mineral field of wonderful richness, says the Mining and Engineering Review. The location is known to but one person, an old prospector named Williams, and he refuses to tell where it is. He says it is within forty miles of Clifton, to which town he takes his gold and whence he obtains his supplies. He has thus far evaded those who have sought to track him to his claim, and he frankly owns that he hopes to keep his secret to himself for a long time. About a year ago he took to Clifton several hundred dollars' worth of coarse gold, which he had pounded out of rotton quartz. Since then he has made several trips, each time bringing in a similar amount of the precious metal. Lately he came again, bringing the usual amount of gold, and in addition a two-pound lump of platinum, a metal rarely found in the pure state. Williams says he has a hill full of gold and other metals and when he has prospected to his satisfaction and taken out his "pile" he promises to give the world a sensation by disclosing the richest field yet discovered.

Arizona Everbearing Strawberry Plants

Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

200,000 Strawberry PLANTS

Arizona Everbearing from Eastern Plants. Guaranteed to be first-class in every respect, not mixed with any other kind, at $2 50 per thousand, if ordered within ten days.

G. W. MULLENDORE Covina, Cal.

BERRY PLANTS

Logans and Gray's Gardena Dewberries specialties. These Dewberries have produced over 5 tons of fruit on one-half acre.
For descriptive list address

W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

Strawberry and Dewberry Plants

Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.

A. E. Harrington Montebello, Cal.

150,000 Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.

F. P. Baldosser, Covina

ONE MILLION IMPROVED Gardena Dewberry PLANTS FOR SALE

A. R. RIDEOUT Whittier, Cal.

Berry Plants

Lady Thompson, Brandywine, Excelsior. Guaranteed Eastern Stock. Also Gray's Dewberries and Blackberries. From this A1 stock in virgin soil you will get plants that will give you the highest results Write today.

J. PARSONS - GARDENA, CAL.

BERRY PLANTS

Arizona Everbearing, Saxton's Noble, Excelsior, Brandywine, Sample P. Coruuna. Mexican Gladsione, Gray's Gardena Dewberry, Loganberries and Blackberries.

F. W. UTLEY, Arlington, Cal.

Orange Trees

Navel, Thompson Improved and Valencia Orange Trees

Twenty thousand one and two years old

G. O. HESLOP LAMANDA, CAL.

CITRUS NURSERY STOCK

Valencias, Washington Navels and Eureka Lemon Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.

PERRY LEWIS TUSTIN, CAL.

2000 Dewberry Plants TO TRADE For Loganberry Plants

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FERTILIZE YOUR TREES

Write today for Free Circulars describing process of preparing Sheep Manure; gives results obtained from its use, and proofs of economy.
Nature's best gift to impoverished soil.

Geo. C. Roeding,
Box 14 Fresno, Cal.

Citrus Seed Bed Stock

Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.

B. C. BENNER, Box 13, San Dimas, Cal.

Geo. B. Warner's . . . Est. 188

Orange County

Nurseries

SANTA ANA, CALIFORNIA

Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.

Residence, 202 Hermosa St.
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California Portland Cement

MADE AT COLTON

Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.

SEND FOR CATALOGUE

California Portland Cement Co.,
401-403 TRUST BLDG.,
LOS ANGELES, CAL.
We have LAND PLASTER for sale

Eucalyptus Trees

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Are are specialty. We have an extra large stock of strictly first-class gum trees for sale this season, consisting of twelve varieties extra fine large plants. We are headquarters for

CITRUS SEED BED STOCK
ORANGE, POMELO AND TRIFOLIATA

the great frost resistant. Citrus and deciduous fruit trees, grape vines, ornamental trees and shrubbery, roses, palms and potted plants. Send for catalogue and information.

The J. W. Armstrong Nursery Co.
Suc. to the Brennan-Armstrong Nursery Co.
POMONA, CAL.

Going Out of Business

The old-established North Ontario Citrus Nursery Co. is going out of business and are offering their

CITRUS STOCK

Including Navels, Valencias, Tangerines, Mandarins, and all kinds of Lemons at greatly reduced prices. Our trees are the cheapest, cleanest and best in the market. Call or write for prices.

NORTH ONTARIO CITRUS NURSERY CO.
UPLANDS, CALIFORNIA

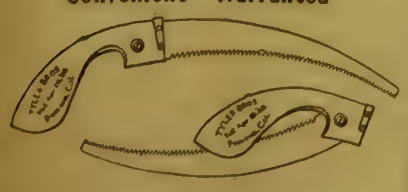
POMONA DEEP WELL PUMP

Long stroke, steady movement, runs smoothly, and is perfectly noiseless.

POMONA MFG. CO., POMONA
or Fairbanks, Morse & Co., Los Angeles

THE POCKET PRUNING SAW

Convenient—Warranted



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IT JUST FITS THE HIP POCKET

The teeth of this saw are disposed at right angles to a straight line from the grip of the handle to the point of the blade, thus permitting the same ease of operation its full length. The peg or cant tooth makes it particularly adapted for green wood. It will not clog or gum. Recommended by all who appreciate a first-class pruning saw. **Price $1.00.**

DEALERS WANTED EVERYWHERE.
GEO. R. TYLER Pomona, Cal.

Coast News and Notes

CONTINUED

HORTICULTURE.

C. D. Morris has been appointed as a member of the Horticultural Commission of Santa Barbara county.

The new fruit display for the Los Angeles Chamber of Commerce was shipped last week from Fresno. Geo. C. Roeding furnished a lot of fine Calimyrna figs.

At a meeting of fruit growers held at Fresno last week, it was decided to organize a co-operative cannery company. Another meeting will be held February 15th to further the organization.

E. M. Garrison and E. S. Ware, district managers of the California Fruit Agency, are in San Dimas and locality investigating the method of protecting cars of fruit against frost. They hope to have found a perfect solution of this proposition.

AGRICULTURE.

A Farmers' Institute will be held at Elsinore the first week in April.

Lima bean straw is selling in Ventura county at $15 per ton.

Solano county will this year set out a large acreage of Tokay grapes and cherry trees.

The Oxnard and Santa Maria sugar factories are irrigating large tracts of land for beets.

Christian G. Frash, the pioneer raisin grower of Fresno, died at Philadelphia, last week. Mr. Frash planted the first vineyard at Fresno in the winter of 1872-73.

The Lompoc Record says "Henry Miller, of that place, has a million tons of hay in stack, some of which was cut ten years ago." Now would be a good time to let go.

The directors of the Raisin Growers' Association at Fresno have been requested to give twelve cars of raisins to the committee to distribute free at the World's Fair next summer. It is thought the request will be granted as a matter of business. The distribution will make good advertising.

MISCELLANEOUS.

Dr. H. Russell Burner is fitting up a sanitarium at Carlsbad, San Diego county.

The government is establishing a new forest reserve near Baker City, Oregon.

F. J. Delano has purchased the Rubidoux packing house at Riverside. Consideration $5,500.

Last week the supervisors purchased a new court house site in Sacramento, paying therefor $68,800.

The committee of improvement on streets, in Garvanza, has decided to plant alternately palms and live oaks.

The City Council of Stockton has granted R. G. Paddock a franchise for installing a heat and power system in that city.

The U. S. Senate by vote last Friday, agreed to the $4.600,000 loan by the Government to the St. Louis Exposition Company.

The Board of Trade of Oakland to the number of 250 were the guests of the Los Angeles Chamber of Commerce this week.

At the city election in April, the Azusa trustees will submit the question of prohibition to the voters of that municipality.

Electricity has taken the place of candles at the San Gabriel Mission. Thus is the wheel of progress steadily displacing ancient methods.

The Y. M. C. A. State convention held on Friday of last week at Fresno, elected C. E. Rumsey, of Riverside, president for the coming year.

The Pacific Coast Poultry Association has been incorporated at Santa Rosa. It is composed partly of the Co-operative Poultry Association.

Work on the new natural gas plant at Ventura is rapidly progressing.

The supervisors of San Diego county have granted the petition of the Imperial electors for the incorporation of Imperial as a city of the sixth class.

The treasurer of Santa Cruz county, Arizona, had $25,000 on deposit in the Nogales International Bank, which failed recently. He is likely to lose it all.

Placer, Yolo and Glenn counties have each appropriated their share of the $30.000 to be raised by the Sacramento valley for a great exhibit at the St. Louis Fair.

The San Francisco Kennel Club is making active preliminary arrangements for its eighth annual bench show, which will be held 13th, 14th 15th and 16th.

The California Commissioners to the St. Louis Exposition have discovered that the freight charges on the State's exhibit will exceed the appropriation for that purpose.

For whistling after a girl passing along the street, the police judge of Oakland fined two young men $50 each, and seventeen days in jail. Let other judges do likewise.

San Francisco merchants have put themselves on record in opposition to the parcels post bill. Whereat the Alameda Encinal says: "San Francisco merchants show themselves very short-sighted and blind to their own interests."

The first suit to be filed in San Bernardino county under the recent decision in the famous Katz-Walkenshaw water litigation has been filed at Riverside for an injunction to prevent the Excelsior company from draining the land of Lucas Montijo, of Colton.

The president of the Anaheim Union Water Co., in his annual report states that the company is in good condition. That if the treasury stock on hand were to be disposed of at present value there would be enough money on hand to pay all indebtedness and leave a balance of $40.000.

Alexander McAdie gives the following summary of crop conditions for the past week: The weather continued clear and frosty during the early part of the week, and was followed by cooler, cloudy weather, with rain in all parts of the State and fairly heavy snowfall in the mountain districts. High winds prevailed in some sections, but caused no damage.

The precipitation was the heaviest of the season in all the southern districts, and will probably improve conditions to such an extent that with the customary later rains fair crops of grain and hay will be harvested. Plowing and seeding will be resumed immediately. In the central and northern portions of the State rain was not so badly needed, but its coming will result in vastly improved conditions of the soil, as well as of grain, hay and pasturage. The early sown grain is in good condition, but its growth has been slow during the cold weather, and the later sown has not made a satisfactory showing for the same reason. The grain acreage in the Sacramento valley is reported considerably larger than that of last season, and prospects are good for heavy crops of wheat, oats and barley.

Work continues in orchards and vineyards, and deciduous fruit prospects are good in all the central and northern sections. The tree and vine acreage is being increased in many places. There are no reports of damage by frost to orange or fruit trees. Almonds are in bloom at Belmont.

Wagner's Nursery

PHONE SUBURBAN 108 PASADENA, CAL.

Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

SEED BED STOCK

Sweet Orange, Sour Orange, Pomelo and Citrus Trifoliata, also Valencia and Navel Buds. Stock clean, thrifty and first-class in every respect. Write us and find out.

F. H. Disbrow Nurseries

NURSERIES: COR. HILL AND VILLA
RES: COLORADO ST. EAST OF ALLEN

Phone Sub. 4x1. Box 1032, PASADENA, CAL.

SHADE TREES

We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand

Roses, Palms, Ferns, Vines,
Ornamental Shrubs, Etc.

Write for Catalogue Free

Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

ENCINAL NURSERIES

SUNNYVALE, CALIFORNIA

The largest stock of Apricots and Peaches in Santa Clara Valley

Apricot—Blenheim, Hemskirke, Moorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings, etc.
Prunes—French, Imperial and Sugar.

Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop.

Want Some Citrus Trees

??????????????
Contract now for spring delivery Washington Navel & Valencia Late trees also grape fruit or orange seedbed plants for nursery
POLLARD BROS.
Alhambra, Cal.

$240 FOR LARGEST WATERMELONS

After 40 years of experimenting and testing all notable varieties of watermelons, we now recommend, especially, "Tendersweet" for home use and "Emerald" for both home and market. We think they are the best obtainable. Seeds 10c a paper in silver. 24.000 papers. The purchaser who grows the largest melon of either variety will positively receive one tenth of our gross sales of seeds of that variety. Caution: Wrap your silver in a little paper, and write your name and P. O. Address plainly.

LEE SEED CO., Burnt Corn, Ala.

FINE ORANGE TREES

One-year Buds on two-year roots.

Navels and Valencias

H. M. COLE
P. O. BOX 455
So. Hill Ave. Pasadena, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

BREAKING THE HEIFER.

Most farmers and dairymen have trouble in milking the heifer with her first calf, and simply because they do not remember that the process of milking is entirely new to the animal, and, naturally, she is more or less disturbed. A veteran raiser of calves makes it a business to handle his animals more or less daily, and as the heifer gets near to the time to drop her calf the udder and teats are gently handled and pulled each day. This plan is not only beneficial, but the heifer gets used to it and is not likely to make much trouble, when she is milked, for the first time. Whatever the plan in handling is, be gentle with the heifer. The Farmer's' Sentinel gives the following rule for breaking heifers:

Handle the teats firmly, yet gently, rubbing them through the hands lightly before beginning the pressure which brings the milk. In changing from one pair to the other, do it gradually by handling the second pair a little. After a week of this gentle treatment there is likely to be less trouble of any kind unless the milker forgets and becomes rough, in which case he need not be surprised if he is kicked off his stool by the gentle and frightened heifer."

BIG DAIRY BUREAU FIGURES.

The State Dairy Bureau has just completed the compilation of statistics of the butter and cheese output of California during the last year. It is shown that the increase over the output of the preceding season was 3,075,213 pounds. Altogether the dairy output amounted to $20,436,152 last season. Secretary Saylor claims that the dairy interest is the largest income producer of any single line of industry in California.

The butter produced last season was worth $8,669,077. The cheese sold for $856,996. Condensed milk represented the value of $621,233. The people of California consumed $6,682,738 worth of milk. Calves raised and sold for veal brought in $1,724,844, and the pork that was raised by products had a value of $881,264.

"These figures," says Secretary Saylor, "are based upon a most conservative basis. The gold mines of California have made the State famous throughout the civilized world, and yet the value of the product of the dairy cows of the State for the last year exceeds that of the gold output for 1902 by more than $3,000,000.

"The coast counties, excepting Los Angeles and San Diego in the extreme southern end of the State, have just about held their own, Humboldt county, the largest butter producer in the State, showing a slight decline. The gain is, therefore, confined almost entirely to the counties in Southern California, the San Joaquin and a portion of the Sacramento valley. During the season two more counties crossed the 1,000,000-pound mark. They are Stanislaus and Tulare, making nine in the State with an annual output of over 1,000,000 pounds."

SHEEP SHOULD BE DIPPED.

The successful sheep feeder of later years have prospered simply because they have resorted frequently to the dipping tank. The parasites that sap the vitality of the sheep and produce the disease known as scab can be eradicated by intelligent dipping and in no other way. Nearly all of the leading stock yards of the country have conveniences for dipping sheep. No sheep are allowed to be shipped from the Chicago stock yards without being first thoroughly dipped. All of these precautions are important, but they do not reach the case. The sheep feeder who relies upon one dipping to eradicate mites and the eggs that produces scab will surely fail. It is well enough, perhaps, to dip sheep before they leave the stock yards, but if they are put back into infected cars for shipment, what has been gained? The wise feeder will build a quarantine yard on his farm, where he can put his western sheep upon arrival, and they should be left in this yard until they can be thoroughly dipped. Nothing but new arrivals should be put in this yard. The feeder should not be satisfied with one dipping, but should dip again after five or six days have elapsed. If western sheep are taken to a farm for feeding, they should be kept separate from the regular flock until the dipping operation has been thoroughly accomplished.—Chicago Live Stock World.

SURE OF TOP PRICE.

"The only butter sure to bring the top price, at all seasons," says the Chicago Dairy Produce," is the extra creamery." This is especially true of California. "Market prices may vary and the market be crowded or contain little butter. Supply and demand control the quotation, and the extras sell at the top price, whatever that may be. If the market is dull for extras the under grades are in a worse condition; if the market is active and extra creamery so scarce that it is impossible to supply the demand, and faulty butter is accepted as extra, then the latter is bringing a premium. When any butter is moving the extras are a chief part of the movement. The recent condition of the market, known as the after holiday dull season, has shown the difficulty of selling under grades at such times. The fact is they have been difficult and, at times, impossible to move. On the other hand, the extra creamery has been scarce. Prices declined because of the pressure to sell storage butter, but the extras were in good demand and were kept cleared, moving out about as fast as received."

PASTURIZING MILK.

Editor Cultivator: In a recent article on "Pasteurizing Milk," which appeared in your paper, you give the impression that the milk is pasteurized in tanks. This is not the case. The milk is pasteurized by the Miller Pasteurizer, which machine consists of one large tinned copper cylinder inside of another similar one, between which a space of only one-sixteenth of an inch is left, through which the milk must pass rapidly between an inside and outside hot-water surface, thus being absolutely uniformly heated to one hundred and sixty degrees in less than half a minute, or higher if desired. The following cooling is carried out in practically the same manner, only cold water, and afterwards brine, taking the place of hot, and reducing

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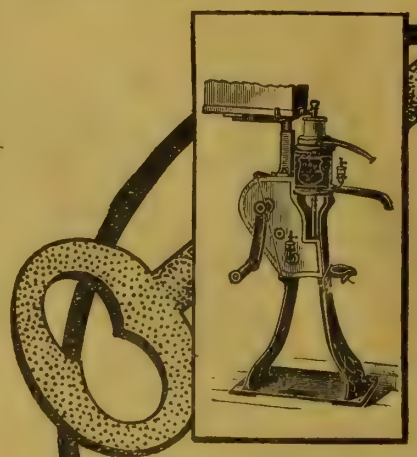

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the temperature in less than a minute to forty degrees or less. I hope the Cultivator will print this statement as it is important that people should have a clear understanding as to what a perfect and uniform pasteurization means. Only by using the most up-to-date methods is it possible to put a pasteurized product on the market which, while in no way inferior in flavor and nutrition to the best raw milk, possesses great advantages as to uniform purity and freedom from objectionable germs, as well as being of far superior keeping qualities.—J. Moldenhawer, of Hoard's Dairyman.

SHEEP ON THE FARM.

Prof. Kennedy, of the Iowa Experimental station, an authority on sheep and cattle raising, says:

"Less labor is required in handling sheep than almost any other kind if stock. During a large portion of the year they will take care of themselves and at the same time utilize the weeds and other wastes found on so many farms. True it is that at certain seasons of the year they must be given food, care and attention. This is especially so at lambing time. The successful flock master is the one who watches the old and young closely at this season of the year."

FEEDS FOR THE COW.

A cow will not do her best unless she has all the feed she wants, but the feed that she takes daily should not contain more nutriment that she needs. In order to approximately adjust the nutriment to her needs and at the same time permit her to eat all she wants is where scientific feeding must be practiced. It has been found that cows need nutriment first in proportion to the milk they give, second in proportion to the quality of the milk, and third in proportion to the size of the cow.

But one of these conditions is practically eliminated in the case of common cows, as they are found on the average farm, for they, as a rule, give milk testing on an average 3.8 per cent butter fat, so no adjustment need be made in regard to the quality of the milk yielded.

By letting cows eat rough at will the adjusting of feed to size of cow will be accomplished and the only adjustment left for the farmer to attend to is for the quantity of milk yielded.

We have found that if cows receive one pound of grain mixture for every three pounds of milk yielded per day the flow of milk is maintained if she is otherwise properly cared for. So, if a cow gives twenty-one pounds of milk daily, she needs seven pounds of grain mixture, and if she gives twenty-four pounds of milk, she should have eight pounds of meal. Give half the grain in the morning and half in the evening, and the same with the hay. But the hay should be fed after milking, while it is best to let the cows eat the meal while they are being milked.

Now, when a farmer goes to the trouble of feeding his cows properly it is quite as necessary to see that the other conditions referred to be looked after.

First, the cows should be kept comfortable. No matter how well cows are fed they will not give a full flow of milk if they are not comfortable. They should not be left out in the cold.

The stable should be warm, well ventilated and lighted, and their stalls well bedded.

Their drinking water should not be below 60 degrees, they should be watered, fed, and milked regularly. They should always occupy the same stall, so when they are in their stall they will feel at home and not be discontented.

Kind, quiet, and gentle treatment has a wonderful influence on the flow of milk.

If all other things are provided and kind treatment is lacking the best results will not be attained.—Prof. Hacker in Kimball's Dairyman.

BITTER MILK.

Editor Cultivator: With reference to the article in your last week's paper by Mr. McClatchie, I do not think that the bitterness is caused by either of the two causes named. The fact given by him as a cause, "that a cow gives bitterish, salty milk during the latter part of the period of lactation," is undoubtedly true; and that fact may furnish a clue to the solution of the question. In a certain town in Wisconsin, about twenty-five years ago, we had an accomplished York State cheesemaker running our factory. I said to him, one day in October, "Do you know why your fall-made cheese is always bitter, whereas your spring and summer made cheese is not bitter?" He answered, "I do not, and it has often puzzled me." "It is because nearly all the cows are in calf in the fall of the year," I said; "I have studied the matter over carefully." There is no doubt that the milk through the entire period of lactation will be slightly tinged by certain herbs, and by other food—as turnips, for example. But the peculiar bitterness of the milk in the late fall of the year is, in my opinion, caused as above stated. In California, where the cows have their calves at all times of the year, the general fact will be as stated by your correspondent, that we must expect bittter milk "during the latter part of the period of lactation" at any time of the year. I give my opinion; but of course, I cannot demonstrate it. It is a question for scientific investigation—the influence of pregnancy on the bodily secretions.—B. E., Riverside.

DANGER IN DIPPING.

Referring to the dipping of cattle, State Veterinarian Blemer says: "To dip cattle in coal oil will result in unnecessary loss." "What we want," he says, is "to obtain from the government permission to remove clean cattle to other States where cattle are wanted. For instance, there are buyers in the south from the State of Colorado who will take several thousand head of stock if they can remove them to that State. These cattle are not infected, and to dip them in oil in their present enfeebled state would kill a large percentage of them."

"There is no question of throwing down the quarantine line of the State and removing infected cattle into the north or to other States. Such cattle as would be allowed to be moved would be first inspected and would be thoroughly free from disease, and the stockmen of Northern California need not fear that they will spread any disease.

"There is a vast difference between the conditions existing in 1898 and now. At that time there was no quarantine line and no inspection of cattle, and the result was that infected cattle were brought north and they infected the other herds. I have numerous inquiries from buyers in Northern California regarding the purchase of southern cattle, and every head that is moved out of the south will be some help."

The Bureau of Publicity of the St. Louis Exposition has compiled a brief history of the life of F. D. Coburn, chief of the Department of Live Stock at the World's Fair. The article will interest the stock raiser because it will appear therefrom that Coburn has been a life-long student of cattle, and that his experience is so varied as to make him an expert in all matters pertaining to the live stock industry.

He was born on a farm in Jefferson, Wis., in 1846. He served in the civil war, was mustered out in 1866, and went to Kansas in the following year, walking across the Missouri river on the ice to reach the State he has since so notably served. He then engaged in farming and live stock breeding until 1880, when he was called to Topeka in the service of the State Board of Agriculture. He was elected Secretary of the Board, and has ever since held that office. Aside from his famous Kansas red line series of reports, he has written many books that are recognized as standard authorities. He has also been a contributor on live stock and agricultural subjects to the leading encyclopedias.

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The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
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MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

FEEDING FOR PROFIT.

We all want to make money with our poultry, or to get eggs which, from a market point of view, is the same as cash, and I think a chat on the feeding problem will help a good many.

* * *

Feeding for Profit.—This subject is vast enough for a professor to tackle and I almost dread to begin, but I hope some of our ten thousand or more readers will talk back, and give us some ideas on the subject, for you know doctors differ, and I am sure poultry men do also, in their ways of feeding, and in the food itself. I have tried quite a number of feeds and also ways of feeding, and some of my experiences may help others.

Last week we decided that the way to build up a great egg laying flock was to breed from the best layers mated to sons of great layers, and to feed for eggs. This plan seems to agree with the well known laws of heredity, and the commonly accepted rules of breeding both animals and plants. But by "best layers" I do not mean hens that have been forced for laying as pullets fed stimulants, and pushed for all they are worth. I would not use such hens, nor choose breeding males that are sons of such females. The result would probably be infertile eggs eggs not sufficiently stocked with nourishment to support the germ, poorly hatched, short lived chicks, and weak, deterioriated stock.

Feeding for breeders and feeding for eggs are two different objects, and diametrically opposite.

* * *

Feeding for Breeders.—In feeding our breeders we can well take a hint from the breeders of race horses; they feed their brood animals for vigor, bone and muscle, they give them regular exercise and plenty of it, and their pricipal food is oats. "Oats" was defined by Dr. Johnson as "food for men in Scotland and for horses in England." De Guthrie replied, "And where will you find such men as in Scotland and such horses as in England?" Oats, then, seem to be acknowledged the greatest muscle and bone producing grain that is known. Let oats be largely fed to the breeders. This may seem like extravagance, but the addition of a dozen chickens to the hatch and the extra vigor of the chicks hatched from eggs which contain a larger percentage of bone and muscle making nourishment will in the end pay. We all know that eggs will be flavored by the food the hens eat, why then should not the eggs also contain much of the elements of the food fed? Green food also is an absolute necessity for the breeders. This I know by sad experience, for the first year I was in California, the hens ate up all the alfalfa in their yards, and killed it, and gradually the yolks in the eggs grew paler until they were a faint straw color and the fertility decreased at the same rate, until I suspected the cause; they had not sufficient green food. Plenty of oats and all the green food they will eat. How do you feed your oats? I buy at wholesale the rolled breakfast oats, the best quality, to feed my breeders. My reason for using this quality is that the second, or cheaper grade, is mixed with rolled wheat, is not pure oats, also the rolled oats is cheaper here than the steel cut. The unhulled oats can be used by soaking them, but I tried the plan and counted the cost and found that the rolled oats, deducting the weight of the hulls cost so little extra and was so much more satisfactory, being without waste, that I finally used nothing but the Nudevin rolled oats.

One of the most important things, and something that is overlooked by many poultry raisers, is the need of exercise. This is just as important as the proper food. The breeders must be made to scratch, for this exercise develops and strengthens the egg making organs. Exercise is quite as important as feed. Fowls that eat their breakfast, then stand in a corner and wait for dinner, and likewise for supper, never produce many eggs and are very poor breeders. Breeders must be made to exercise. The scratching shed or pen should contain plenty of loose material, such as straw or hay, in which the grain can be buried deeply, so as to insure plenty of exercise in scratching it out. This should take up the best half of the day. Some people feed the mash in the morning. I have had much better results by feeding the whole grain in the morning in the scratching shed, as it keeps the fowls more healthy and active. I feed equal parts of rolled oats, wheat and cracked corn or kaffir corn, a small handful for each fowl, thrown into the scratching shed. At noon I feed green feed either finely cut clover, alfalfa, or a cabbage, beet, half a pumpkin, lettuce, or any vegetables I may have. At four o'clock I feed the mash. This is somewhat varied, for I try to balance the ration at night, but the foundation of this for my breeders is two parts bran, one part feed meal, one part oat meal and four parts cut clover or cut alfalfa, a little charcoal and a little salt. I mix the mash with milk if I have it, if not I add five per cent (that is one-twentieth part) of meat meal or dried blood. I occasionally also add table scraps or bread soaked in milk. I try to feed them a balanced ration of 1:4. Three times a week the breeding pens have some green ground bone, and they always have a liberal supply of grit, shell, charcoal, and dried bone before them.

* * *

Pure Drinking Water.—Another necessity is pure drinking water. Each yard has a water hydrant and three times a day the fowls have fresh, clean water in an iron kettle. My fowls were of the American breeds and I fed about six ounces (dry weight) per hen. Edgar Warren says: Feed one ounce for every pound of hen. This is good advice. I never give my breeding pens red pepper or any stimulants as I am afraid of weakening or irritating the egg producing organs and I want vigorous breeders to lay eggs that will hatch vigorous young chicks.

Forcing for egg production, feeding little chicks, feeding broilers, fryers, roasters and capons, also dressing and marketing fowls will be subjects of my next article.

* * *

ANSWERS TO QUESTIONS.

Geese.—Mrs. Basley: As there is no one in this part advertising Toulouse geese or eggs for sale, I drop you these few lines to ask if you know any one selling Toulouse geese eggs. There are none advertised in the Cultivator, as I have watched to see if some one would advertise, but none as yet. Kindly let me know.—Hugh O. Higgins. P. O. Box 741, Riverside, Cal.

I am sorry I do not know of any one; perhaps some of our readers have them; if so please write to Mr. Hig-

Cockerels Barred Rocks, Black Langshans, Light Brahmas and Partridge Cochins. Over thirty of these choice birds at $2 and $3 each. Eggs, $1.50 per 14. B. B. P. YDS., CARLSBAD, CAL.

SAY! Send $1.50 for 13 eggs from choice prize-winning stock of
GOLDEN BUFF LEGHORNS
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A few good cockerels and hens for sale. Winners at great San Francisco Show.
LINDGREN & SONS KINGSBURG, CAL.

THE GOOD FOUR
I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California. They are ranch raised, healthy and number one. If you would like their eggs, write to
EGGS, $1.50 PER SETTING
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Barred Plymouth Rock Eggs for Hatching
1st pen, imported male bird, $1.50 per 15
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Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.
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EGGS FOR HATCHING
From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
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We can furnish incubator lots not over one day old guarantee 75 per cent. fertility, for $6.00 to $8.00 per hundred, from strong, thoroughbred stock, grain and alfalfa fed. Fertility runs above 90 per cent.
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Three silver cups and 24 prizes Eggs, $2 for thirteen
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Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.
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Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.
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Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.
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ROUP and CHOLERA
First know what is wrong with your fowls before giving medicine. Some would tell you that there is no cholera in this country. Try a package of Palmer's Cholera Remedy in all cases except Diphtheratic Roup, and you will find it effective.
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Trade Mark
We have what you've been looking for—a guaranteed cure for Roup and Cholera—something that cures in every case if used according to directions; Palmer's Poultry Powders—the only infallible remedy ever offered the public for Roup and Cholera. Manufactured in your own State by the
PALMER POULTRY POWDER CO.,
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World's Chick Feed of To-day. The only original dry **Chick Feed**—all others are worthless imitations. **Chamberlain's Perfect Mash Egg Feed** supplies your hens in winter with grass and meat, and is the greatest egg food known. Feed your hens **Chamberlain's Perfect Hen Feed** night and morning, **Perfect Mash Feed** at noon and you will have eggs winter and summer. Chick Feed for sale at $3.25 per 100 lbs.; Hen Feed $2.75 per 100 lbs.; Mash Egg Feed $2.20 per 2-bushel sack; Evergreen Shredded Clover (green as grass) $3.25 per 100 lbs.

GERMAIN SEED CO.,
PACIFIC COAST AGENTS. LOS ANGELES, CALA
SPECIAL PRICES ON TON LOTS.

gins, and at the same time send an ad. to the Cultivator. I am glad that some of the turkey breeders have put advertisements in the Cultivator and hope others will soon, as since I wrote on the care of young turkeys there has been a great demand for turkey eggs for hatching.

Feeding Ducks.—Ed. Cultivator: I have purchased some Indian Runner ducks and would like to know what would be the best feed for them. Also if it would be better for them to have water or not.—H. F. P. Colton.

P. S.—Please reply through the Cultivator.

In the Cultivator of March 20th, 1903, full directions were given for feeding and caring for Indian Runner ducks; if you cannot find your copy send stamps to this office for the paper.

Ticks.—Editor Cultivator: Will you please tell me through the columns of the Cultivator what will exterminate ticks from a hen house. They hide in the wood in daytime, come out at night and bite the chicks.—A Subscriber.

Kerosene emulsion sprayed on will thoroughly exterminate them. See a long description of how to make and use it by government experiment station in the Cultivator of Oct. 23, '93; if you have mislaid your copy send stamps to the office for another.

Chickens Dying.—Will you please tell me what is the matter with my chickens and what treatment they should receive. I have lost a good many within the last month. First I notice that they act as if the head was affected, then the legs become weak, and then they stagger about the yard. Then the legs become stiff so they seem to almost lose the use of them, and after about two weeks die. Am feeding whole corn; so far only half grown chickens have been affected. I use iron pipe for roosts.—A Subscriber.

You do not say how you feed, nor whether your chicks have grit, charcoal, clean water, dry, warm, comfortable houses, free from lice, mites. The symptoms denote indigestion, lice and rheumatism. The iron pipe for a roost would account for it. Poor little chicks! take an iron pipe to bed with you and you will a little bit realize how those tender little feet and legs must suffer the whole night long. It is enough to kill them all and will certainly stunt those that survive. Also you say you feed whole corn; do you mean that is their only feed? If so you certainly must give a greater variety. Next week I shall have an article on feeding chicks which may help you. Or if you write me more fully your method of feeding I will gladly tell you what I think about it.

* * *

Feeding.—Do you find any great egg value in oats? I have a poultry friend who gives oats credit for most of his eggs. Answer through Cultivator.—Ida A. C.

Next week I will give various formulas for feeding for eggs, etc.

* * *

Keeping Eggs.—Mr. Ernest Braunton asks how long he can keep eggs before placing them under a hen to hatch, as he has some very fine Bantams, but is not ready to commence incubating the eggs.

By turning the eggs over twice a day they may be kept three or four weeks. The object in turning them is to prevent the yolk from settling to one side, also to exercise gently the germ. The germ always comes to the upper side of the yolk and, curiously, it requires exercise to keep it strong and healthy. The smaller the eggs the less time can they be safely kept. The fresher the eggs the better will be the hatch, as if kept too long the germ becomes weak and finally dies with the result that the egg becomes rotten.

* * *

The following is a sample of letters I am receiving daily from distant readers of the Cultivator:

Mrs. A. Basley: I would be pleased to know what your experience has been in poultry and egg raising in California. Is it a profitable business? Can they be raised successfully? At what price can you sell me one hundred thorough-bred hens? What do you know about squab raising for market? Is there any demand for them in Los Angeles? What prices do they bring? What is the average price for poultry and eggs? Thanking you in advance, yours truly, R. E. W., Sioux City, Iowa.

I have not space in this week's Cultivator to answer your enquiries, so must send you a personal letter.

WATER FOWL.

It was the pleasure of the writer to visit the duck farm of James Hague at Oakland recently. Mr. Hague has the most complete duck farm in the State and is an enthusiast in duck raising.

The little ranch is just on the outskirts of Oakland on the banks of a picturesque ravine, the home on one side, the duck runs on the other.

Unfortunately Mr. Hague was not at home, but some of the questions which we would have asked him are answered in the following article, which he has sent to the Cultivator:

There is nothing mysterious about running an incubator. For many years incubators and brooders have been successfully used with profit on both large and small duck plants, and it seems hardly necessary to occupy the Cultivator readers' time with a discussion in favor of artificial incubation. I know the time is at hand that every person wishing to raise ducks should have a first-class incubator and brooder. Duck raising on a large or small scale, rightly conducted, is a very profitable business, no one can deny. Its best feature is that there is no prospect of its being overdone, as there always is and has been a ready market for good young ducks.

To get fertile eggs I mate five ducks with one drake, in Pekins; Indian Runners, eight ducks to one drake; Colored Muscovies, eight ducks with one drake; Black Cayuga, four ducks with one drake; Rouens (fanciers' duck) 6 ducks with two drakes—Rouens being a hard proposition to get fertile eggs from; Gray Calls, six ducks to one drake; Aylesbury, four ducks to one drake; Blue Swedish, four ducks to one drake.

In feeding young ducklings let their first meal consist of stale bread or cracker crumbs, having drinking water with their first meal and always keeping it before them. Feed this two or three days.

Then use Johnnie cake, equal parts bran, flour, corn meal and ground meat (but no baking powder in it); bake so as to be crumbly. Feed this with a sprinkle of sand on it, until 10 or 12 days old.

THOROUGHBREDS CHEAP.

Wishing to change my business, I will sell my entire lot of 400 White Leghorn year-old hens and pullets for $175. Small lots at $7 per dozen. Address C. H. WELLING, SELMA, CAL.

EGGS FOR HATCHING

From grand laying strains Black Minorca and White Leghorn fowls. Pens headed by prize winners, $1 and $2 for setting of 15. One Plymouth Rock pen headed by bird bred at eastern experiment station from 250-egg strain, $2 per 13 eggs Stock for sale.

J. P. McDonough Geyserville, Cal.

Eggs for Hatching

—FROM—

PURE BRED WHITE LEGHORNS

$1 00 per 13—$4.00 per 100

JACOB KREGER

Route 1 - Anaheim, Cal.

A GOOD INCUBATOR

Will prove a money maker. The other kind will cause loss and disappintment, but they are made to appear equal to the best on "paper." The PACIFIC is made on scientific plans and is guaranteed to give satisfactory results in the hands of inexperienced operators.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec. 16, '03.

Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yours truly,

Mrs. A. N. Zumwalt.

Send two 2c stamps for my catalog and Poultry House Book. It has information that will benefit every poultry raiser.

Address Wm. B. Dean,

929 E. 25th St. Los Angeles, Cal.

Albers' Black Minorcas

Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.

EGGS COCKERELS CIRCULAR

GEO. R. ALBERS

4849 Marmion Way Los Angeles, Cal.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

Make Your Own Fence...

We will furnish the wire at 2c per pound, No. 14 guage. Weighs about 1¼ pounds single strand per 100 feet. Figure it yourself and get a good fence cheap. You make mesh or openings to suit requirements. This is galvanized wire that has been used for other purposes, or it would be worth two or three times our price. Remit for amount required and get quick shipments. No quantity under 100 pounds supplied.

Lee Chamberlain & Co. Station C 105 North Main St. Los Angeles, Cal.

Darling's High Protein

BEEF SCRAPS

Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.

Farmers and Stockmen

All Use

Prussian Stock Food

We Carry a Full and Complete Line

GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

Winner Buffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever held west of the Missouri.

WHITE LEGHORNS

Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."

Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from various egg-producing strains of large eggs.

Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect. None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.

To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders, Selected not only for their Show qualities, but more essentially for their laying qualities of la ge eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize pullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and the first prize hen at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be found.

"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger e gs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Such strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.

W. W. HOWARD 3024 E. Main St. Los Angeles, Cal.

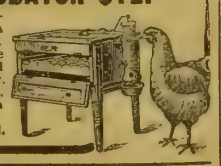
Lake Avenue Poultry Yards

Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $4.00 per 100. Strong, healthy stock, prize winning strains. Visitors welcome.

757 N. LAKE AVE., PASADENA, CAL.

200-EGG INCUBATOR $12.80

This perfect 200-egg Wooden Hen at $12.80 is a startling trade innovation. It will do the work of the most costly hatcher, and always keeps in order. Hatches every fertile egg. Catalogue with fourteen colored views sent free.
GEO. H. STAHL, Quincy, Ill.



Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

James Hague, Proprietor

350 College St., Oakland, Cal.

BARRED PLYMOUTH ROCKS

THOMPSON'S RINGLET STRAIN

Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.

A. A. Clapp - Alhambra, Cal.

EGGS

Buff Opringtons, Harris strain, Clay Center, Nebraska, $1.50 to $2.00 per 15.
Buff Orpingtons, Riddel stock, Fresno, Cal., $1.50 to $2.00 per 15.
White Leghorns, Lytle strain, $1.00 per 15.
All strong, healthy ranch raised stock.

LOUIS S. FLETCHER, ANAHEIM, CAL.

FREE! FREE!

The 1904 Catalogue B

Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address

Must Hatch Incubator Co., PETALUMA CAL.

19 Ribbons at San Francisco and Los Angeles Shows. Entries 26.

EL ORO POULTRY FARM

FRESNO, CAL.

H. H. HOLLAND - Proprietor

Booking orders for eggs from yards of White and Brown Leghorns, White Buff and Barred Rocks, Blue Andalusians, Light Brahmas, Silver Spangled Hamburgs, Buff Cochin Bantams, Black Minorcas, Pekin Ducks and Bronze Turkeys.

MATURED

Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns

Only Birds that have

MOULTED

are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

CAPTAIN MITCHELL
SANTA BARBARA, CAL.

SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904

There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCURATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address

C. C. SHOEMAKER, Box 718, - Freeport, Ill.

Then feed equal parts bran, corn meal, middlings and meat (from table or butcher's shop) with 10 per cent coarse sand and plenty of green barley, rye, oats, cabbage, lettuce, or any kind of greens; mix thoroughly and moisten. Remember, do not have this mixture sloppy. Feed what they will eat up clean, feeding four times a day until one month old. Then three times a day until eight weeks old, then they should be ready for market, weighing ten to twelve pounds per pair.

BEGIN WITH SMALL FLOCKS.

It requires a year's experience to know where the mistakes are made, and if one can learn how to avoid them, one-half of the difficulty will have been overcome. The greatest mistake is in undertaking the business with too many fowls. Begin with a small flock, breed for the kinds preferred and gradually increase until the desired number is secured.

The White Leghorn fowl has some peculiar features which make it a most valuable breed to keep. They are inveterate layers, good breeders, uniform in size and when they have attained their growth, excellent for the table. They do not grow quite as large as the Barred Rock, but they make up in some other qualities for this lack of size. As a California bird, they are very acceptable. They are clean and healthy. Housewomen are exceedingly fond of them.

Geo. H. Stahl of Quincy, Illinois, offers to send free a colored plate showing by eighteen views the development of the chick in the shell. It is said to be of especial value to incubator users. In addition he will send an incubator catalogue of a valuable line of incubators. Mention this paper and Mr. Stahl will give special attention.

If one has a desire to see some 'way up S. C. White Leghorns, the desire may be satisfied by visiting the yards of W. W. Howard at 3024 East Main street, Los Angeles. Mr. Howard told the writer recently that he aimed to capture the principal prize winners of the country. "For instance," he said, "there is a first prize hen from Madison Square," and she was indeed a beauty.

Other first prize birds were shown from both eastern and coast shows. Mr. Howard centers on the S. C. W. Leghorns, and has an exceedingly high average of stock.

* * *

The Chamberlain Perfect Poultry Supply house starts in this week to educate the Pacific coast as to the merits of the various feeds. The Germain Seed Co. of Los Angeles are handling the feed and find excellent results when it has been tested. A catalogue can be had by addressing W. F. Chamberlain, the Perfect Chick Feed Man, St. Louis.

* * *

White Rocks, Indian Games and Bronze turkeys of eastern strains are specalties of Mrs. J. P. Moore of Lamanda Park. Her stock is said to be the finest of these breeds.

* * *

S. W. Morgan, our old friend of Sunnyside, is again announcing his "Good Four"—W. Minorcas, W. Wyandottes, W. Rocks and White Leghorns—and one more can be added which makes it a "Good Five," and that is, Morgan is a "white" man to deal with.

* * *

"Make your own fence." That's the slogan of the Lee Chamberlain Co., of Los Angeles, and the company offers a large quantity of wire at greatly reduced prices. The wire, which is galvanized, is said to have been used for other purposes, which accounts for its greatly reduced price.

* * *

One of our new ads. is that of the Hollywod Rose Co. Last week the types made Mr. Dunscomb say that the expert does "everything" well. It should have read "one" thing well, and by the look of the rose bushes of that company they do have good bushes.

Cockerels - Barred

Thoroughbred Bronze Turkeys

Gobblers and hens from finest pure-bred stock in the State. Eggs, 13 for $4.

[Not Cornish] are beyond criticism as to color and size. Pullets one year old weighing from 8 to 10 pounds. Eggs, 13 for $3.

My Indian Game Chickens

White Plymouth Rocks

Strains from eastern states. Eggs, 13 for $3

Three blocks south of S. P. station, and three blocks north of Monrovia Electric line on Rose avenue.

MRS. J. P. MOORE BOX 163 LAMANDA PARK, CAL.

Largest Poultry Supply House in the United States

Have just received another carload of

GENUINE

BEEF SCRAPS

$3.75 per 100 lbs. Special quotations on quantities.

HENRY ALBERS - 315 South Main Street Los Angeles, Cal.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Show

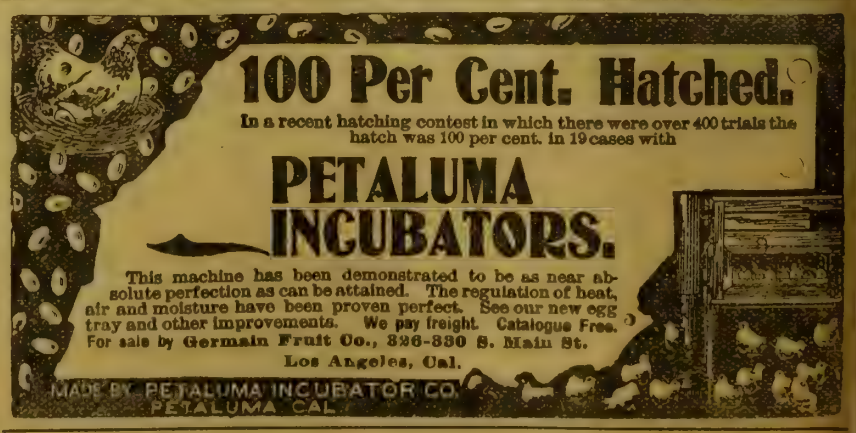
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes waf equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. The victories only akd to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.

SEND FOR NEW ILLUSTRATED CIRCULAR GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE **Los Angeles, Cal.**

RANCH: 2½ Miles South of the University Station, on Vermont Ave.
Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena
All Stock is Kept at Ranch. Phone: Sunset, State 82


100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St.
Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO.
PETALUMA CAL.

When writing to Advertisers Please mention Cultivator

A PRACTICAL POULTRY PLANT

The Little Poultry Ranch of Captain Mitchell at Santa Barbara, where Beauty and Utility are Brought Together in Finely Bred Birds, which are Profit Winners.

One of the prettiest sections on California's wonderful coast line is that about Santa Barbara. Many little valleys and arroyos running inland into the range of hills which skirt the ocean in that section afford locations for many beautiful little ranches and suburban homes. This is practically true of Montecito, some two or three miles east of the city of Santa Barbara. There many wealthy people have built commodious homes and planted flowers and ornamental trees which add to the natural beauty of the live oaks and sycamores which cover all hillsides and valleys.

The natural beauty of these hills and valleys and the possibilities as homestead sites have drawn many people of wealth and the natural conditions of soil, water and climate have drawn many producers who have an eye to beauty and who use the conditions to secure a good living.

A few weeks since one of the Cultivator staff drove out from Santa Barbara with the poultry ranch of Captain E. Pryce Mitchell as the objective point. The road follows the ocean front for a mile or more, then takes a turn up into the hills, where, winding around hillsides or up little valleys, magnificent homes and productive orchards are passed and delightful views of mountain and of ocean are had.

The explicit instructions as to how to reach Captain Mitchell, given at Santa Barbara, could readily have been followed up, but our interest in surroundings and in the picturesque winding road caused us to lose the road twice, only to give a longer drive and added pleasure. Finally a Mexican was encountered who with "up-hill—down-hill—lots of chickens" and innumerable gestures got us on the right camino."

Soon on the brow of a low hill, we look down the arroyo to the right and see a cottage amongst the live oaks, while further back were hundreds of White Leghorns, Orpingtons, Rocks and Brahmas.

The private winding road down the bluff brings the ocean into view, possibly a mile or more in the distance. The house is on a slight elevation, giving an unobstructed outlook toward the ocean. This view must be had, for, you know, Captain Mitchell is an old sea captain and he must, of course, keep in sight of his former field of work.

But the object of the visit was not to admire the beautiful, but to get from the Captain some ideas on commercial poultry raising. We say commercial poultry, to distinguish from the fancier whose aim is the pleasure of raising a high bred fowl of perfect form and feather.

But it soon developed that while Captain Mitchell's aim is to largely raise fowls for the purpose of securing eggs for market, yet he believes in the use of the well bred fowl to accomplish this. It costs no more to feed, it costs no more to breed, and the results are far more satisfactory, commercially as well as in the pleasure of possession of fine stock.

The Captain soon had us in tow—pardon the nautical expression—and was manifesting pardonable pride in the appointments of his yards. Good, substantial buildings with cement floors predominate. The runs are large and double—that is, two runs to each flock, green stuff growing in one pen while birds range in the other. Besides, alfalfa and white clover lawns will supply other green to keep a regular variety.

A Row of Poultry Houses.—The "jail" for broody hens is a feature of each house. Another fine feature is the ease with which eggs are gathered from the nests.

Some Fine Looking Cockerels.

The houses are all large, well ventilated and the cement floor kept perfectly clean. Every morning the attendant passes through all the houses and, with tray and broom, collects all droppings, when clean sand is again scattered.

The larger runs are given over to the single comb White Leghorns. Of these there are about 250 birds, and from them are secured most of the eggs for the Potter, which gets its supply of eggs from Captain Mitchell. There are some pens of beautiful Barred Rock, Buff Orpingtons and Brahmas. The cuts in this page give something of an idea of this stock and the houses.

The houses, by the way, and the appliances about the yards, have many suggestions. The cut of the houses show the substantial construction. The "jail," which may be seen at the end of the house, is on every house. As soon as a hen gets broody she is removed to the jail and after two or three days by merely pulling a wire the birds are released into their regular quarters.

At the time of the visit—Jan. 20th—no hatching was begun, nor were eggs being delivered for hatching. Yes, the Captain does some selling of eggs for hatching, for his desire for fine stock has brought together such a lot of birds as commends admiration and consequent desire for the eggs at hatching time. No pullets are in the breeding pens. Only hens which have moulted, or hens in their second season. All early orders this year have been refused, for the Captain said his eggs must not only be fertile, but capable of producing strong constitutioned birds which will be money makers.

The incubator and brooder were not yet started, but the best of appliances are on hand for that work this season.

Two gasoline engines are on the place, one for pumping water for use in the garden, in the house and for the poultry, and another for charging the storage battery in the automobile. But together to give information on poultry raising in California.

The Captain says that he ascribes his success to the fact that he started in with nothing to unlearn. So the book is entirely from a California standpoint.

It shows how the place has been brought up to yield the neat income of $1500 per year for its commercial product. And all on only five acres.

This book will be issued within a very few weeks and will be on sale at the Cultivator office. The novice will find much of instruction in it, the veteran poultryman will get a vast fund of new ideas. Captain Mitchell is a keen observer of the best ideas to be secured from others and from practical experience.

In his preface he says:

"At sea a man is considered to have no time absolutely his own, but is liable to be called on at any moment; he expects this before he ships and is therefore prepared for it.

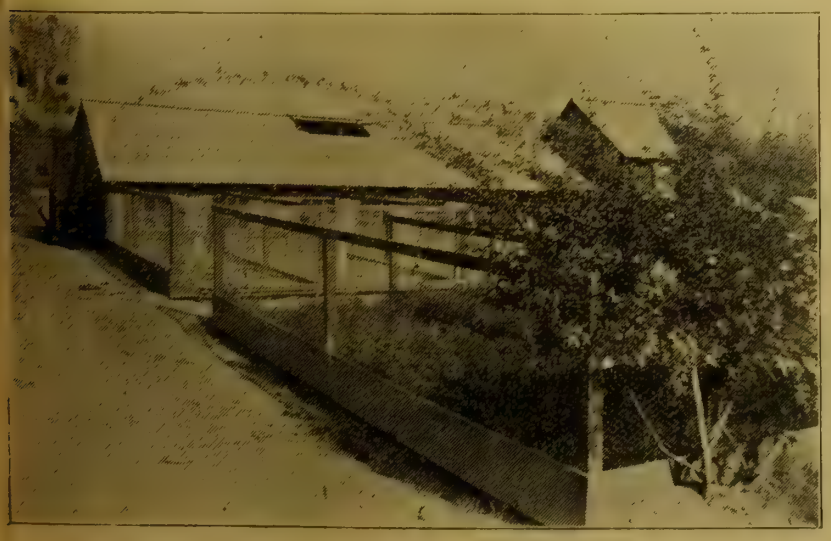
This same rule applies to the poultry business, so unless one is prepared to give up a good deal of their "watch below," Sundays included, it were better left alone, for if one gets tired of it in a year or so, much of the investment is likely to be lost when selling out.

In case a reader of this book intends to take it up seriously, and requires more information on certain points, the writer will be glad to hear from him."

In the introductory, after reviewing the first four years' work, he says:

"The fifth year is now at an end. My sales have been about $3000. The food has cost $1200, and labor $500; I am therefore $1300 ahead by the year's work. Had I employed one boy instead of two, and done some of the manual work myself, I could have netted a clear $1500. I have learned more this year than I would have thought possible, and still think I am going to learn something new each year about chickens, as long as I continue to raise them. I know more today than I did five years ago, but I am a long way from being an expert. I am simply a practical man, running a poultry plant on strictly business lines, under conditions suited to this climate, where poultry grows more slowly than in a country where there are fixed seasons, where feed is dearer than in most parts of the United States, and where the cost of labor is almost prohibitive.

This little account of my work makes no pretence of being a complete manual of poultry raising. There are plenty of excellent works of that kind already on the market, some of which I shall have occasion to mention later on. I am only trying to give a plain statement of facts about poultry raising in Southern California, where conditions are essentially different from those that prevail in the East. The knowledge that I have now would have saved me much time and money if I could have availed myself of it at the start; and it is with the hope of saving other beginners from similar errors that I am offering this record of my experience."



Brooder House and Pens.—Note that the alfalfa pens in the foreground are cut off from the main run. But the gates may be opened and the chicks allowed to run in alfalfa when wished.

NOTES BY THE WAY.

These notes were written for last week's paper and croweded out. Since then the rain has materially altered the feeling of the people of the coast.

Dry weather?

Yes, a little bit. Pretty discouraging to some. Yet a trip up the State by one of the Cultivator staff shows not all discouragement. The stockmen are blue and looking for new pasture. That is, most of the way from here to San Francisco, along the coast. At Santa Barbara the hills are yet brown, but the orchards are receiving cultivation and irrigation.

Captain Mitchell finds plenty of water for his chickens—but that's another story, which appears in another column.

At San Jose the dry weather and the disposal of the old prune crop vie with each other for first place in the conversation.

The prune question is no joke. There are yet on this coast 45,000,000 pounds of prunes. Most of them are in Santa Clara valley. That means a vast property tied up which growers up that way wish changed into coin of the realm.

The growers' desire, it is believed by many, would be, in a measure at least, secured so far as the market is concerned. But there is where the cussedness of man comes in and the bearing and ruining of the market is engaged in.

The price of three cents was no sooner made by the associations and independent growers than a two and three-quarter price was made by one of the largest outside shippers. The meanness of such a movement is commented on by growers in no genteel language.

But this isn't prune review, but just Notes by the Way.

Above San Jose, toward San Francisco, through San Mateo county, the grass becomes more green, and over on the ocean side plenty of rain has fallen. That is, they say a "plenty," but at the same time admit a "leetle" bit more would do no "harm." In San Francisco we met Captain Thornton, who owns a fine property—a whole section of land—just outside the city limits, which is covered with cabbage and other garden truck which are all grown without irrigation.

Wishing to know the price of such land we asked the cost and the Captain said it cost him $1.25 per acre.

This was interesting.

Was there any more land at such a price?

The Captain said there was lots of it when he took that up.

That was more interesting. But it soon developed that that was in '50 or many years before the writer began counting birthdays, so interest ceased. The land is now worth $400 or $500 per acre.

North of the city, up in Marin and Sonoma counties, the hillsides are green and cattle browsing in contentment. Here, also, a little more rain would do no harm. However, no great suffering is apparent and plows are going on all sides.

Up in Petaluma are some chickens. But that, too, is another story, for next week.

Out toward Sacramento we cross the great ferry boat Solano, of the Southern Pacific company, on which two trains look lonesome. We then cross some of the rich tule lands of the delta of the two great rivers. Some of these lands have been reclaimed and are today the richest of the State. And others are yet open for the enterprise of the capitalist, who will, with dredgers, throw up levees and reclaim more of it from the sea.

Rain? No. No one there cares for rain, for the gardener simply opens the gates and lets in rivers of fresh water.

The Sacramento is not flowing full, yet a vast quantity is floating the river boats with their valuable freight.

Between Sacramento and Stockton is a magnificent section. Orchards, vineyards, grain fields and gardens. Off to the west are many reclaimed lands which are irrigated from the rivers. Others, especially gardens, are irrigated by windmills.

One of the most valuable tracts of this reclaimed land is in the hands of a Los Angeles syndicate, which is securing the vast worth of this land, and at this time has seven dredgers at work throwing up levees and reclaiming many thousands of acres.

In the grain sections much plowing is being done, and more rain would be a great blessing. South of Stockton it's pretty dry. The great section between this and Fresno is hardly touched by the plow. The teams are idle and the farmer looks into the blue and says, "How long?"

At Fresno the raisin men are talking raisins. Raisins to burn. Of the million pounds of raisins only about one-half has been marketed. That, of itself, is not discouraging, but the contentions within the ranks is fearfully discouraging. The management in charge of the association have made some mistakes, possibly, but greater have been made by outsiders who have dogged every step of the management to the end that the market is demoralized.

The new schedule of prices with the assurance that the price will not be lowered this season is expected to strengthen the market and enable the disposal of the remainder of the crop.

Geo. C. Roeding looked over from behind a pile of mail just in and said "too busy to talk to newspaper men," and he looked it. Shipments of nursery stock going everywhere. "Drouth? Yes, a little dry, but lots of trees being planted."

F. H. Wilson, of Fresno nurseries, had a yard full of fine looking trees. Most of his large shipments go out from the Dinuba yard direct. Mr. Wilson wished it would rain, but had no complaint. Lots of trees going out.

The big Fresno Agricultural works is prepared to meet a heavy demand for the tools to work the ranch, and many men are busy in the shops with orders now being filled.

The stock men of the State are the most inconvenienced by the lack of rain, yet the general condition is not so desperate as many believe. One seldom hears a discouraging remark, as nearly all say it will rain yet.

COLTON MARBLE.

The Colton Marble Works, which is now the property of the California Portland Cement Company, and which has been running day and night for the past two years furnishing marble for two of the finest office buildings in San Francisco which cost their owners more than $1,500,000.00 and which are now completed, is now running and is ready to furnish marble of all descriptions to whoever desires.

The Colton marble is one of the most beautiful marbles in the world, takes an exceedingly high polish and does not stain.

The company invites the public to inspect their plant at Colton; and anyone using marble has no need to go abroad or east for same, for they can save time and money, besides getting a superior article at home, and thereby helping to build up a new industry for Southern California.

THE ELGIN FACTORY.

The Elgin factory is the largest in the world. The daily output is 2,000 watches, and 102 different kinds are manufactured. The watches go to every part of the world, and are sold even in Geneva, Switzerland.

The different parts of a watch are manufactured in different departments by different people, who have devoted their lives to that particular kind of work, and have been trained to delicacy and exactness which is more important in watchmaking than in any other mechanical industry. These parts are then assembled as they are needed in another department, where they are put together by experts, who handle them as easily and almost as unconsciously as a great pianist will strike the keys of his piano.

If a father is able to start his son in business with $10,000, what business is as safe as farming? asks William J. Bryan in an article in the January Cosmospolitan. Given a young man with a thorough education, good habits, willingness to work, and a desire to make himself useful, where can he fare better than on a farm? He can apply his brains to the enriching of the soil, to the diversification of his crops, and to the improvement of his stock, and at the same time give reasonable indulgence to his taste for reading and study. He will have all that contributes to health of body, vigor of mind and to cultivation of the heart. What occupation or profession can offer him richer rewards?

The California raisin-growing industry, like all other industries of the State, shows enormous development, which but indicates the possibilities of the future. In 1876, but 600,000 pounds of raisins were produced in the State. By 1894, the production had reached 103,000,000 pounds. Then came four years of depression, which was felt by practically every enterprise in the State. But in 1898, in common with other California industries, raisin-growing took a fresh start, and last year the yield was estimated at 115,000,000 pounds. Increased production from now on promises to be steady. With better distribution there will be little difficulty in disposing of all the raisins that California can produce, and 115,000,000 pounds will probably be small in comparison with the figures setting forth the volume of the raisin crop ten years hence.

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Salzer's Speltz or Emmer	80 bu.
Salzer's Great Teosinte Fodder	80 tons
Salzer's Victoria Rape for Sheep	30 tons
Salzer's Billion Dollar Grass	14 tons hay
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TWILIGHT ON THE FARM.

The dews come down, and shadows gather
in field and lane,
Low in the west a band of black gives
promise unto rain,
It is the twilight hour—and given o'er to
calm and rest,
It brings to home a benediction and is blest.

The boys come and bathe their faces at the
cooling well,
Afar and faint, then near and sweet, tinkles
the lead-cow's bell,
It is the twilight hour—and stars are start-
ing from the deep,
High heaven's herald sent to watch that
men may sleep.

The father comes, a man of many years of
toil and care,
Who smiles to see the candle in the self-
same window there;
It is the twilight hour—and with the farm
work amply done
He feels a poor man's joy to think the food
is won.

Then all sit down to eat the evening meal,
and far away
A wagon rumbles out the neighbor's name
who loves delay;
It is the twilight hour—and free from day's
unending quest
It brings to home a benediction and is blest.

—Boston Journal.

THE LAST OF NINA'S LOVERS.

"You won't find her that way."

Sheldon stopped on the path to the cottage and looked back. There was an old half-sunk pier at Dexter's Landing. One side sloped almost to the water, but the other was high and safe on its piling, stained green by the lapping river.

A figure in pink was perched at the far end of the pier. Nina never wore pink. She said it was ordinary. Nina's gowns were all in pastel tints. Also, the figure wore a large sunbonnet. Nina said that sunbonnets were ordinary, too, and topped her own pretty blonde curls with an airy creation in chiffon and tea roses.

Therefore, taking these points into consideration, Sheldon waved his cap in comrade fashion at the figure, and started for the pier.

"Don't whistle rag-time," said Sally, severely, when he was beside her. "It fidgets the fish."

"I don't see any fish," he returned, mildly.

"There are lots and lots. If you keep looking steadily at the water you can see them. I just saw a great big perch come along, and he chewed my bait right off, and sailed away with it. Fish are the meanest, smartest things you ever saw. Want to fish?"

"Not today, thanks, Sally."

"Oh, I forgot. You want to find Nina. If you go down past the boathouse, up the board walk to the hotel, then over the beach—"

"It's too warm to travel," said Sheldon. "I'll fish. Lend me your pole."

Sally watched him thoughtfully, as he rebaited the hook and cast out with a broad sweep.

"Fishing's awfully soothing, when you're worried," she said after a time. "You have to keep still, anyway, and the water makes you so sleepy and rested when you hear it lapping against the pier."

"I'm not worried, Sally."

"Yes, you are. Of course you don't notice it, but everybody else does. And I'm awfully sorry for you—about Nina, you know." The white sunbonnet nodded at him sympathetically. "You really havn't the ghost of a chance. You know Harry Barton and Wallace Stevens and old Mr. Dean? They all had it, too. Wallace had it worst. He wanted to jump off the lighthouse pier until I told him Harry and Mr. Dean had chosen the same place, and he changed his mind. They all tell me about it, you know, because I'm her sister. I can tell when one's in love with her before she can. First they give me candy and loan me their "frat" pins, and say I'm a bully chum. Then after a while they say they wish they had a sister like me. Then they want me to tell them all about Nina ever since I can remember, and I fill them up."

"Fill them up?"

Sally nodded contentedly. "Tell them a lot of fairy tales about how lovely she has always been, and how she saved my life three or four times, and never told a lie, and won't use powder, or curl her hair on an iron, or anything. And they keep on liking me until Nina lets them fall over, and after that they come and I sympathize with them, and they tell me how they would like to die. It's awfully interesting. Will you take to the pier when Nina lets you fall over?"

"I'm not in danger of taking a tumble, thank you, Sister Sally."

"Oh, don't be morose and grumpy. It's a sure sign you're worried. And it's nothing at all to be ashamed of. Nearly every one falls in love with Nina. It's part of their vacation, Wallace says. And she doesn't mind, only she says she does wish they'd all propose by moonlight, as it's more effective and interesting."

"Did any one ever propose to you, Sally?"

"Oh my, yes. And it was lovely. Last year—no, two years ago—I was eleven, going on twelve, and the Seventy-second Regiment came down here to camp. And there was a bugler boy. He was going on fifteen. He wasn't very pretty, but you know how they look all dressed up cute, and he could blow the bugle so it said 'Sally.' And he used to write me notes, and hide them in trees, and after supper we'd sit on the porch and talk and talk, just the way Nina does. And the night before he went away he proposed."

"What did he say?"

Sally hesitated and her eyes were tender. "Don't you laugh and tell Nina?"

"Never."

"Cross your heart, hope to die, if ever you tell you'll lose your eye," chanted Sally.

"Which eye?"

"You're laughing now. I don't care. He was a lovely boy. And he said, 'Sally,' let's run away, and never come back any more.' And I said, 'No; I'm sorry to hurt your feelings, but I never will forget you or the honor you have done me as long as I live.' That's what Nina always says. And then I let him kiss me; and he wanted a lock of my hair, so I cut off a piece of Nina's long curl that she tacks on the back of her head when there's a hop. It wasn't just the color of my hair, but he didn't know, and that's what Nina does when they all beg locks of her hair. Why she wouldn't have any left at all, you know. And then I let him kiss me a few times more just to let him know I was really and truly sorry, and he went away. You've got a bite!"

Sheldon did not notice the bobbing cork. He was staring at a white sail that dipped blithely to the breeze at the north end of the island.

"Isn't that Creston's yacht?"

"The White Ladye? Yes, that's his." She looked at it attentively and sighed. "It's just as well you didn't hunt Nina, because she's out there. Creston's splendid. He's got money, too; but that isn't it. I know Nina's in love with him, and it will all be fixed when they come back. I'd never let anybody propose to me on a yacht. Just get nicely started and have the sail flap at you, or something. And no one can handle a yacht when there's proposing, can they? Isn't she going a little topply now?"

Sheldon said something beneath his breath, and turned back to the contemplation of the cork.

"But Nina won't mind this time. I guess you don't mind anything when you're really in love. He's going South tomorrow if she doesn't say yes. He told me so, and I told Nina last night.'

"They have veered around, and are heading for the pier."

"Maybe the bay is rough. You'll never catch a single fish if you bob like that. Maybe I ought not to have told you, but you're the only one of the whole lot that I like, and when I told Nina you were in love with her—that was after you gave me the fishpole, so I knew—and that I wished she'd marry you, she said you were taller than Creston, and a dear boy. And one day I found her crying, and asked her if she was in love, and she threw a pillow at me. And then I asked her if it was you, and she threw two pillows at me. But when I said Creston, she just kept still, and cried, so I knew. They are coming this way."

"Do you think she'll take Creston?" asked Sheldon, looking up.

"Oh, yes. I asked her, and she laughed, and said if she didn't marry him she'd accept the last man who proposed. I wonder who that was. Wallace did last Sunday night, but Nina would rather try the lighthouse pier herself than take Wallace."

Sheldon took one last look at the white yacht bearing down upon him, and suddenly devoted all his attention to the fishpole. There were three impaled beauties to his string when the White Ladye slipped gently along the pier, and when he caught the rope that Creston threw, he was smiling almost cheerfully, and Sally took heart. Nina was cool and sweet in white duck barred in blue, and she smiled back at him as he helped her to the pier.

"Coming, Creston?" he asked.

Creston shook his head, and he raised his cap to her. Sally saw that his face wore the same look that had been on Barton's and the rest when Nina had finished with them; but the hand that held the white duck skirt from contact with the wet sides of the pier wore a single diamond ring and Sally pondered.

"I am going back to the clubhouse," said Creston. "We sail South tomorrow."

When he had gone Sally looked anxiously at Nina. She was smiling dreamily at the retreating yacht.

"Nina"—Sally's tone was low and regretful—"is he really going?"

"Really and truly. I think he is heading for the lighthouse pier this minute—"

Sally reached for the fishpole, which Sheldon had cast aside, and threw out the line carefully.

"Well, I'm sorry for the last one, then," she said.

Sheldon raised a parasol over Nina with proprietary interest, and shut off the view of the yacht as he kissed her.

"Pity me, Sally," he said, "I'm the last one. We were engaged last night."

Sally turned back tactfully, and the white sunbonnet was mirrored in the water.

"Do it again, if you want to," she said gently. "I won't peek. Only go away, or you'll scare the fishes."—Izola L. Forrester in Woman's Home Companion.

RECIPES

Eat Little, but Have That Little Good

PRUNES.

Prunes, which are the dried fruit of a certain kind of plum—a sweeter variety than the ordinary Davison or Green Gage plum—belong to that class of fruit known as food fruits. Dates, figs, raisins and prunes—the "stone fruits"—contain 50 to 75 per cent of sugar, and are considered to surpass even the banana as a source of cheap nourishment. Then, too, they have this advantage over the banana, they are generally more agreeable to every one when they are cooked, and may be employed in a greater number of delightful combinations. Prunes and rice form a delicious consortment, the rice furnishing the carbohydrates.

The laxative quality attributed to the ordinary prune is greatly overrated, as it does not contain qualities which cause it to be more laxative than other fruits. This idea probably had its origin in the fact that a special kind of plum is grown in southern France, which is rather indigestible, and which forms, when dried, the medicinal prune.

Prunes, grown, ripened and sundried in our favored western climate, are very sweet and very fine.

They should be thoroughly stewed, but slowly and at a moderate heat, in order to make them tender and develop the natural sweetness. If the cooking is carefully and properly done the finest grade of prunes do not require sugar added as additional sweetening.

Prunes should be thoroughly washed in cold water and soaked over night

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in sufficient lukewarm or cold water to cover them well, allowing for their swelling to their original size when fresh.

When the skins of cooked prunes are tough and hard they should be removed before the fruit is given to children or delicate persons, and in all cases they should be thoroughly masticated before swallowing them.

Prunes which are cooked until they are plump, sweet and luscious are not to be spurned by the most fastidious, who may have had the misfortune of a first introduction to this branch of the plum family after it had been subjected to the not unusual shriveling, toughening process which has made them a byword and subject for cheap witticisms.

* * *

Prune Pudding.—Stew until tender one pound of prunes which have been soaked over night; when cooked add sufficient granulated sugar to sweeten to taste. Remove the pits and cut the prunes into small pieces. Beat the whites of eight eggs to a froth and stir them in gradually into the cold prunes, beating all the time. Bake at once, about twenty minutes. Stir the pudding once while cooking. Serve with whipped cream. This makes a large pudding.

Prune Jelly Pudding.—Simmer gently large, finely flavored prunes until tender, being careful to keep the skins from breaking. Drain free from the syrup and place in a pretty glass dish. Break up a mold of lemon jelly and place in and about the prunes to give it the appearance of having been made together. Whip one pint of cream stiff with half a cup of powdered sugar, flavor with a teaspoonful of vanila, pile over the pudding and set away to get very cold.

Prune Loaf Pudding.—Stew half a pound of prunes which have been well soaked until tender; soak half a box of gelatine in a cup of cold water. Strain the juice from the prunes; there should be two and a half cupfuls. Pour this juice over the gelatine and half a cup of sugar. Add the prunes, together with the meats taken from the prune pits, both should be chopped fine, and the juice of half a lemon. Pour into a mold which has been wet with cold water; set away to harden. Serve with whipped cream.

Prune Roll.—Add to one quart of sifted flour three teaspoonfuls of baking powder and half a teaspoonful of salt; sift these again, then rub in with the tips of the fingers two tablespoonfuls of butter, add sufficient milk to make a soft dough. Roll out, and sprinkle with one cup of prunes which have been cooked until tender, and from which the pits have been removed and the prunes cut into small pieces; dust with a little cinnamon. Roll up and steam for half an hour. Serve with hard sauce.

Prune Cream Pie.—Stew gently sufficient prunes which have been soaked over night to make one cup of pulp. Stone and mash the prunes through a colander. Add to pulp one cup of thin cream, thickened with a teaspoonful of cornstarch which has been made smooth with a little cold milk, add one-third cup of sugar and the yolks of two well-beaten eggs. A little lemon or orange juice may be added to flavor and greatly improves the pie. Line pie plate with pie crust, fill with the prune mixture and bake as quickly as possible without burning. Beat the whites of the eggs stiff and stir in two tablespoonfuls of powdered sugar, and spread over the pie when taken from the oven; return to the oven and brown lightly. To be eaten hot or cold, as preferred.

ONE WAY TO BE ATTRACTIVE.

The housekeeper has many things on her mind, but she should not neglect giving at least ten minutes out of every twenty-four hours to her own personal attractiveness. Every boy and girl thinks "mamma" is beautiful, and why should she not be universally admired, even though not beautiful by nature, if her appearance shows she has taken care of her complexion? Every night, just before you retire, try washing your face with good soap, rinsing and drying well, then rubbing with a solution made of two parts of rose-water, one part of glycerine and the juice of two lemons. Have enough altogether to make one pint. Put just enough on to make the face moist, and rub until the skin is rosy red. If there are any wrinkles around your eyes or mouth, be careful that you do not rub parallel with them, but straight through, crossing them. The effect will surprise you. The freckles, tan and wrinkles will gradually grow dim, leaving a soft pink-white smooth skin.

BY ERNEST BRAUNTON, GLENDALE, CAL.

INSUFFICIENT INFORMATION.

Editor Cultivator: Our rose bushes are not doing well—leaves are curled—do not seem to have any insects on them. Can you inform me what is wrong?—Mrs. E. E. F.

If you will let us know: What soil plants are in; what the water supply; how fertilized, if at all; how old bushes; what varieties, if known; what exposure; if in lawn or in plat by themselves, and any cause you can think of for the trouble, we will try to help you, though no assurance of help can be given. The fact that leaves are curled gives us no light—we need all facts obtainable.

* * *

FERNS.

Editor Cultivator: Please answer following questions: 1. What kind of soil do ferns thrive best in? 2. Where can I sell cut ferns? 3. I enclose piece of fern leaf covered with scale; what shall I do to remove or kill it?

1. Leaf mold—pure, or about one-fifth sand if rather heavy. 2. Address San Francisco and Sacramento floral stores; we have no addresses of such on hand. 3. Too badly infested to preserve leaves; cut all off; clean off every scale seen on stump and wash once or twice a week with strong soap suds, or until sure all scales are dead. Keep soap suds out of soil as much as possible.

* * *

DROUGHT-RESISTANT TREES.

Editor Cultivator: Please answer following questions: 1. What shade trees, ornamental trees, and palms can stand the most drought? 2. What shrubs and flowering plants are the most drought-resistant?—T. H., Vernon ave., Los Angeles.

The following trees are all good for very dry situations and all but the pine and cypress will do for street planting. Any acacia except melanoxylon (the Blackwood), Ceratonia Siliqua, Carob or St. John's Bread (see two S. W. Main and Fourteenth), Cupressus macrocarpa, Monterey cypress, Eucalypti ficifolia, or rudis; the first is the scarlet flowering gum; Pinus radiata, Monterey pine; Sterculia diversifolia, Victorian bottle tree—best of all for streets; last, but not least, the live oak—plant one or two somewhere.

No doubt Washingtonia, the California fan palm, is the most drought resistant. The writer has seen them in their native habitat, growing well up the canyon sides where no soil was visible, nothing but rocks. No doubt the roots reached water somewhere, though, when young, they certainly could not.

In shrubs the following are useful: Caesalpinia pulcherrima (known locally as "Bird of Paradise"); Grevillea Thelemanniana (a jewel); Lantana, several colors; Lavetera, either species in market; Plumbago, white or blue.

In small plants use: California poppies, lavender, mignonette, petunias, portulaccas, rosemary, smeet alyssum. Lists containing other plants for dry localities have appeared in these columns from time to time—memory will not keep a readily available list of all that are best for the purpose.

* * *

SICK ROSES.

Editor Cultivator: I send by same mail roots and canes of diseased rose grown by me from cutting two years ago. First year it did fairly well, but this year it has gradually died back. Many others are going same way—they sometimes die on one side of wood only, while the opposite side is green. Soil is fairly heavy, containing some sand and gravel. Have tried soot, sulphur, ashes and soap suds as remedies, but they seem to do no good. Can you suggest a remedy?—Mrs. Halford, Dinuba, Cal.

From material and information sent no correct diagnosis of the trouble can be made nor specific remedy suggested, but the writer begs leave to submit the following comments: The plant sent was very small and poorly rooted for a two-year-old and the cuttings had been improperly made. The lower cut was made too far below a bud and the subsequent root growth was "sporty," that is it all went in one direction, as is quite common with cuttings so made. So long was this wood below the bud that it does not appear to have callused, but the pith or center rotted out clear to bud—such a rose never had a fair start.

The sand and gravel in a soil that is only "fairly heavy" is no advantage—roses like a firm soil. Ashes and soapsuds are certainly not good for rose bushes that are sickly. Wood ashes are generally beneficial to healthy, growing plants, but soap suds never are. Rose wood dying one side only, might be due to sunburn in cases where the heat was great and little foliage to shade the canes, but it is much more apt to be a die-back, or anthracnose, for which no cure has been found. The symptoms given point strongly to this disease. La France, locally, seems to be more readily affected than any other rose. We are sorry we cannot help you, but would advise burning up all affected plants and starting anew.

PICKLING OLIVES.

If the Cultivator can send me a reliable recipe for pickling olives with lye, it will be conferring a greatly appreciated favor upon an old subscriber. Several years ago I pickled olives, using lye, with great success, but the recipe I used can not be found now and so I appeal to the Cultivator. Trusting that I am not appealing in vain, and thanking in advance, I am, very truly yours, James M. Park, El Montecito.

On page 162 of the Cultivator of September 4, 1903, will be found an article answering the question asked by correspondent.

NOTICE OF MEETING.

A meeting of the members of the Los Angeles County Apple Growers' Association will be held at room A in the Court House in Los Angeles, on Saturday, February 20th, at 10 a. m.

FRED'K MASKEW, Sec'y.

I. T. MARTIN Furniture and Carpet House
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The place to buy good Furniture, Carpets, Mattings and Stoves Cheap. 3 x 7 Window Shades 35c.

ALL GOODS GUARANTEED AS REPRESENTED

LIVE OAKS STERCULIAS
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Choice Flower, Garden and Tree Seeds.
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Hollywood Rose Co.
J. L. DUNSCOMB, MGR.
PROSPECT PARK P. O., CAL.
—ROSE BUSHES EXCLUSIVELY—
If you want the best in rose bushes, go to the specialist who does one thing well. We grow and handle only such roses as do best in this climate. All bushes sold are sturdy, vigorous, thoroughly dormant, and will bloom within a few months.
PRICES
No. 1 size, 30 inches high, 50c each, $4.50 per doz
No. 2 size, 24 inches high, 35c each, $3.50 per doz

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"I have been for years a casional traveler, east and west, on the Limited trains of the Santa Fe System, and it gives me pleasure to bear voluntary testimony to the excellence, the efficiency and comfort of the train service, and to the unvarying excellence of the dining service, both aboard the trains and at the various stations along the line. Even at desert eating stations I have found the food and table service entirely satisfactory and far above the average."

Brig.-Gen. Harrison Gray Otis
President Los Angeles Times

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IF not convenient to visit the store do not feel that you must postpone buying. We have built our business on "All Goods Marked in Plain Figures," so you are assured of exactly the same treatment as if you spent half a day here. But come if you can. New Curtains, Carpets and Drapes. The new ideas are now fully represented, and to be strictly up-to-date you do not need to be extravagant. Write what you would like to do and we will show you how it can be done.

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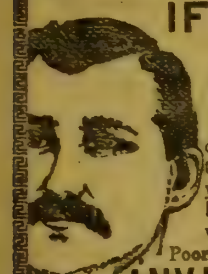

A Pacific Island shrub or plant makes the cures—the most wonderful discovery on earth to-day. **3000 CANCERS** cured on people you can see and talk with. **ANY TUMOR, LUMP OR SORE** on the lip, face or anywhere six months is, *nearly always*, Cancer. Poor cured free if cancer is very small on face.

ANY LUMP IN WOMAN'S BREAST IS CANCER

It does not pain until almost past cure, and if neglected it **ALWAYS** poisons the deep glands in the armpit, then it is often too late and still no pain. Deep in the shoulder death is certain. In 30 years I have cured more cancers than any other Doctor living. **INVESTIGATE MY ABSOLUTE GUARANTEE. BE SURE TO GET MY 180-PAGE BOOK,** sent free, with symptoms, addresses and testimonials of thousands cured, and write to them.

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PLEASE SEND THIS TO SOME ONE WITH CANCER.

Tree Spray Distillate

Not an emulsion of oil and caustic soda, but a special distillation of oil from which all asphalt and other deleterious substances have been removed. Mix with water and apply with spraying apparatus that gives a thorough and constant agitation to the liquid—when properly done we guarantee that it will destroy all insect life attacking either citrus or deciduous fruit trees and not

Spot Fruit or Hurt Tree

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TRACELESS HARNESS

No Whiffletrees—No Traces

This harness is indispensable to every fruit grower—vineyardist or orchardist. Saves time, labor and patience. Pays for itself many times over every season in the saving of injury to trees and vines and damage to growing fruit, which always occurs from the use of ordinary whiffletrees and traces. One of the handiest of farm equipments.

We have hundreds of testimonials from every State, like the following:

Sunland, Cal., December 27, 1902.

SIRS—In regard to the Baker Traceless Harness which I purchased from you I wish to state that when using it on the team among my trees, I know of no improvement which can be made on the outfit unless I cut the legs off the horses. It is impossible to injure the trees or fruit while using it.

Yours well satisfied, T. G. CUSHMAN.

Sebastopol, Cal., March 29, 1902.

DEAR SIRS: Your harness is all you represent it to be in every particular. We judge it a big success for plowing vineyard and orchard.

Yours very truly, C. D. HAMILTON

Don't delay—write us to-day for illustrated catalogue of this valuable harness, mailed free for the asking. Live agents wanted everywhere.

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EASY TO OPERATE
STANDARD SPRAY PUMP
HAS NO COMPETITOR
WE CARRY A FULL LINE
OF ALL KINDS OF SPRAYING
GOODS-HOSE-NOZZLES ETC.
SEND FOR CATALOGUE, MAILED FREE.
WOODIN & LITTLE 312-314 MARKET ST. SAN FRANCISCO, CAL.

Los Angeles Markets.

Los Angeles, Feb. 11, 1904.

Although there is no change in price of eggs from last week there has been much doing in that line, the last few days. San Francisco market became crowded, causing a drop of 2c, thereby throwing an unusual quantity to Los Angeles, supplying the demand, which, for the past two weeks, had been greater than the supply.

All feed stuff has taken an advance of 5@10c over last week's prices, owing to the continued scarcity of rain. Fruits and vegetables are all firm, with the same prices as heretofore quoted. Lower grades of butter have been quite active the past week.

Butter.		
B. of T. Creamery, 2lb roll		70
So. Cal. dairy do	60	62½
Cold Storage	50	55
Cooking, lb	23	24
Cheese.		
Cal. and 3lb hand		16
Cal. Downey or Anchor		16
Coast, full cream	16	17
Swiss		13
Imported		28
Eggs.		
Fresh Ranch	24	25
Store, case count	22	23
Poultry.		
Spring chickens, per lb	17	20
Hens, No. 1 per lb	14	14½
Ducks, per lb	14	15
Turkeys, per lb	20	22
Turkeys, cold storage	22	23
Live Stock.		
Hogs, per cwt	5 25	5 37½
Prime steers, per cwt	4 00	4 50
Cows and heifers	3 25	4 25
Calves	4 00	5 00
Potatoes.		
River, per cwt		1 50
Oregon, do		1 70
Local, do		1 50
Local White		2 25
Local Sweets, white		3 00
Vegetables; Mixed.		
Onions, yellow, per cwt		2 45
Beets, per 100 lbs		1 00
Cabbage, per cwt		1 40
Green Peas	04	06
String Beans	07	08
Lettuce, per sack		25
Tomatoes, 25 lb crate		2 00
Celery, per doz		50
Hubbard squash, per ton		20 00
Carrots, per sack		1 00
Chiles, string		75
Cauliflower, doz		75
Fruits; Fresh.		
Navel oranges, per bx	50	2 50
Lemons, do	75	1 50
Limes, per 100	90	1 25
Four-tier Belleflower		1 75
Four-½-tier do		1 25
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs	1 00	1 50
Strawberries, bx, fancy	07	12
Grapes, per crate	3 00	4 00
Guavas	04	05
Grape Fruit		1 25
Fruits; Dried.		
Apples	05½	06
Apricots	08	09
Peaches	07½	08
Raisins, per box		3 00
Raisins, loose	07	08½
Prunes	03	06
Pears		10
Nuts.		
Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½
Hay and Grain.		
Alfalfa		16 00
Tame Oat		16 00
Barley Hay		16 00
Wheat Hay		15 00
Wheat	1 35	1 45
Barley	1 10	1 15
Oats	1 25	1 35
Corn	1 15	1 20
Mill Stuff.		
Quotations f. o. b. cars L. A. are:		
Rolled barley		1 25
Bran		1 25
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50
Beans, Dried.		
Pink, per cwt	3 37½	3 40
Lady Washington do	3 25	3 50
Limas	3 50	3 75
Small White	3 50	3 75

San Francisco Markets.

Dairy.

The market for lower grades of butter has been easy during the week but higher grades have been steady at ruling prices.

Creamery, extras	30
Creamery, good to fancy	27 @29
Dairy, extra	25 @26
Dairy, choice	22 @24
Store	14 @16
California Storage	21 @24

Eggs and Poultry.

Receipts of eggs have been the heaviest of the season and as a result prices have maintained an easy undertone.

EGGS—Per doz:

Ranch, selected, large	27
Ranch, good to choice	25 @26
Store	24 @25
California storage	Nominal
Eastern	Nominal

The market for poultry has been excellent, good demand, firm prices. No material change from last week's quotations.

Fruits and Vegetables.

Navel oranges show a stronger tone this keew owing to the uneven prices.

DECIDUOUS FRUITS—Apples, per box, common to choice, 50c@$1; fancy, $1.25@1.75, extra, $2.

Pears—Per box, Winter Nellis, $1.75@2.

CITRUS FRUITS.—Per box: Oranges, Navels, fancy, $1.25@2.25; choice, 65c@$1.50; standard, 50c@$1, according to size; Seedlings, 50@90c; Lemons, $1@2.50; extra, $2.75; Grape Fruit, $1.50@2.75; Tangerines, $1@1.50; Limes, $5@6.

The tone for potatoes continues firm, some movement in speculative channels. Vegetables somewhat easier tone.

VEGETABLES—Asparagus, per lb., 40c; Tomatoes, per box or crate, southern, $1@1.25; Rhubarb, per lb., 8@10c; Green Peppers, per lb., 12½c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 12½@17½; wax, 10@12½; Green Peas, per lb, 5@7c; Egg Plant, per lb., 20c; Summer Squash, per box, $1@1.25; Cucumbers, hot house, per doz., 50c@$1.50; Mushrooms, per lb, 50c; Garlic, per lb, 5@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at ½@1c per lb.

POTATOES—Per ctl: River Burbanks, 95c@$1.10; Early Rose, 90c@$1.05; River Reds, $1@1.10; Garnet Chile, 90c@$1.25; Salinas and Lompoc Burbanks, $1.40@1.65; Oregon Burbanks, $1.10@1.35; Tomales, $1.05; Sweet Potatoes, $2@2.10.

ONIONS—Yellow, per ctl, $2.

Dried Fruits, Nuts, Etc.

Interest is lacking in general trading in dried fruits and the market is tame, as it was last week. This condition, however, does not obtain in New York, for within the past few days the apathy which has characterized the attitude of most buyers of dried fruits has disappeared, and while pronounced activity is still lacking, the movement shows a decided improvement compared with what has been doing in this line since the beginning of the year. The incentive to speculation appears to be less than for many years at this time, and transactions therefore reflect for the most part only the passing requirements of distributing trade. The movement of stocks into actual consumption now appears to be in full swing, and the outlook is for the continuance of it well into spring, as retailers, like jobbers, have, to a much less extent than usual, anticipated their requirements, and consequently are likely to be steady buyers on the present scale, so long as the consuming season lasts. The effect of the demand from consumers is now being felt in the wholesale market east, and it is reasonable to suppose will reach the Pacific Coast within a short time. At present prices remain about as quoted last week.

DRIED FRUITS.—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 3½@6c; Sun Dried, 3¼@4c.

Apricots—Royal, fancy, 9¼@10c; choice, 8½@8¾c; Moorparks, choice, 10@12c.

Peaches—Choice, 5@6c; fancy, 6¼@7c; peeled, in boxes, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9¼@10c.

Plums—Pitted, 6@9c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2½@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Red, 4@5c.

Figs—White, 4@5c; Black, 4@4½c.

NUTS—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Pecans, 11@13c; Pinenuts, nominal. Peanuts, Eastern, 6@6½, do. California, nominal; Brazil, 11@12c; Filberts, 10@11c. California Walnuts, soft shells, No 1, 13@14; do, No. 2, 11@12c; hard shells, No. 1, 12@13c; do, No. 2, 10@11c; Hickory, 8@10c.

Chestnuts, Italian, 9@10c; Coacoanuts, $4.50 @5.00 per hundred.

HONEY—New Comb, per lb., White, 10@12c; Amber, 8@10c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 26@28c.

Hops.

The price for the new crop is 27@30c per lb, according to quality.

Beans.

The market for beans shows firmness, prices on Whites a little higher.

BEANS—Prices per ctl: Large Whites, $2.45 @2.60; small do, $2.90@3.10; Pea, $3@3.25; Dried Peas nominal.

Live Stock.

Prices unchanged to any extent.

CATTLE—No, 1 Native Steers, 8½@9, and Stags, 3½@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES.—Light, per lb., 4¾@5½c, gross weight; heavy, 4¼@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 4½@5c per lb., gross weight; Ewes, No. 1, 4@4½ gross weight

alive 130 lbs. and over, 5½. Market tending upward.

HOGS—Per lb. Hard grain fed, weighing alive 130 lbs and over, 5½; market tending upward.

LAMBS—Spring Lambs, $2.50@3 per head or 4¾@5¼c per lb., live weight.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $15@18; Wheat and Oat, $15@18; Oat, $15@17; Barley, nominal; Clover, $13@14.50; Alfalfa, $11.50@13.50; Stock, $12@13.

STRAW—Good to choice, per bale, 60@75c.

OIL CAKE MEAL—In lots of 20 tons, $29 per ton; 10 tons, $30; 5 tons, $30.50; less quantiti, $31. Prices are mill rates and are subject to change without notice.

OILCAKE MEAL—In lots of 20 tons, $29

CRACKED CORN—Choice quality, per ton, $29@30.

FEED CORN MEAL—Choice grades per ton $28.50@29.50.

GROUND BARLEY—Per ton, $24.

COCOANUT CAKE—In lots of 10 tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 Shipping, per ctl., $1.36¼ choice, $1.38¾; White Milling, good to choice, $1.38¾@1.50.

BARLEY—Choice, No. 1 Feed, $1.08¾@1.12½; off grades, $1.06½@1.07½; Brewing No. 1, $1.15@1.41¼; Chevalier, nominal at $1.20@1.40.

CORN—Good to choice, per ctl., California new, large Yellow, $1.35@1.40; small do., nominal; White, $1.35@@1.40; Eastern, $1.27½@$1.32½.

OATS—Good to choice White, $1.27½@1.40; Red $1.27@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

WOOL.

There is no material change in wool.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, Feb. 10.—Higher prices in all foreign markets, due to actual war, caused a strong opening in wheat. May was ¼ to ⅜ to ⅝ to 1 higher, at 95⅝@96, while July was ⅛ lower to ¾ higher, at 86¾@87⅝. Liquidation of aMy and buying of July by a prominent operator was the principal feature in trading in corn. The market was extremely erratic. May closed ⅝ lower, at 55¾@55⅝. There was a large volume of trading in oats, with heavy selling in May. The close was weak, May 1⅛ lower, at 42⅜. July closed ¼ lower at 38⅞. The feature was the transactions in May pork, which closed 5 higher. Lard was 7½ to 10 lower, and ribs up 2½ to 5.

Cash quotations were as follows: Flour was quiet, but firm; No. 3 spring wheat, 80@94; No. 2 red, 93¾@98; No. 2 corn, 49½; No. 2 yellow, 49½; No. 2 oats, 39⅝@40⅛; No. 3 white, 40@44; No. 2 rye, 62; good feeding barley, 40@41½.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	46,100	39,200
Wheat, bushels	79,000	49,200
Corn, "	295,600	198,900
Oats, "	514,600	173,000
Rye "	14,100	7.000
Barley "	191,300	30,000

DAIRY MARKET.

On the Produce Exchange today the butter market was firm; creamery, 15@25; dairy, 13½@20; eggs, firm, 28½@31½; cheese, steady, 9½@10½.

California Dried Fruits.

NEW YORK, Feb. 10.—The market for evaporated apples is quiet, but steady; common, 4@5; prime, 5⅛@5¼; choice, 5½@6; fancy, 6½@7. Apricots, are firm; choice, 9¾@10; extra choice 10@19¼; fancy 12@15. Peaches also are generally firm; choice, 7¼@7¾; extra choice, 7¾@8¼; fancy, 9@10. Prunes are quiet, at from 3½@6½ for all grades.

CITRUS MARKETS

THE ORANGE MARKET.

The largest orange sale of the season is reported from New York on Tuesday. The Agency sold thirty-eight cars and the Independents seven. The market has assumed a more energetic tone under the influence of higher temperature which permitted shipping from central points to outside towns. Prices were likewise higher and quotations firm. Florida oranges have about run their course and do not attract much attention at auction points. Only 150,000 boxes remain in the State. A better feeling pervades the market and the prospect is brighter, as the weather predictions are more favorable. Prices on Sicily lemons are from 10 to 15 cents higher than early in the week.

AUCTIONS.

NEW YORK, Feb. 5th, 1904.

Riverside Fruit Exchange, La Mesa Navels $1.90.

Riverside Fruit Exchange, La Mesa Navels $2.00.

C. C. U. Rialto, Gondolier Navels $1.55.

C. C. U. Redlands, Rose Navels $2.10.

C. C. U. Redlands, Sunflower Navels $1.85; Blossom Navels $1.60.

C. C. U. Fullerton, Victoria Navels $1.75.

Riverside Fruit Exchange, Uncle Sam Navels $2.00.

C. C. U., Riverside, Gypsy Queen Navels, $1.80.

PHILADELPHIA, Feb. 5th, 1904.

Queen Colony Fruit Exchange, O. I. C. Navels $1.70.

C. C. U. Riverside, Excelsior Navels $1.60.

Riverside Fruit Exchange, Blue Mountain Navels $1.70.

S. T. Fruit Exchange, Whittier Navels $1.55.

S. B. Fruit Exchange, Colton Terrace Navels $1.65.

A. C. G. Fruit Exchange, Glendora, Pointer Navels $1.70.

BOSTON, Feb. 5th, 1904.

Riverside Fruit Exchange, Blue Globe Navels $1.75.

Riverside Fruit Exchange, Red Globe $1.60.

Covina Fruit Exchange, Nonpareil Navels $1.55; Nonpareil Improved $1.50.

Queen Colony F. Ex., Queen Bee Navels, $1.90; Royal, $1.75.

PITTSBURG, Feb. 5th, 1904.

C. C. U. Duarte, Union Navels $1.50; Union Improved $1.90.

C. C. U. Redlands, Camelia Navels $1.95; Blossom $1.65.

C. C. U. Pomona, Lila Navels $1.45.

A. C. G., Azusa, Pointer Navels, $1.55.

CLEVELAND, Feb. 5th, 1904.

C. C. U. Pasadena, Nasturtium Navels $1.40.

C. C. U. Redlands, Blossom Navels $1.60.

CINCINNATI, Feb. 5th, 1904.

Covina Fruit Exchange, Red C Navels $1.40.

C. C. U. Redlands, Blossom Navels $1.60.

S. T. Fruit Exchange, Our Farm Navels $1.40.

C. C. U. Corona, Tropical Queen Navels $1.20.

San Antonio Fruit Exchange, Pet Lemons $2.40.

C. C. U. Redlands, Blossom Navels $1.60.

NEW YORK, Feb. 8th, 1904.

C. C. U., Redlands, Blossom Navels $1.60.

C. C. U., Rialto, Bouquet Navels, $2.00; Rialto Navels, $1.80.

Riverside Fruit Exchange, Blue Globe Navels, $1.70; Red Globe, $1.55.

Arlington Heights Fruit Exchange, Golden Orange Navels $2.05.

Covina Fruit Exchange, Butterfly Navels $1.45.

C. C. U. Highgrove, National Improved Navels $2.10.

C. C. U. Redlands, Camelia Navels $1.80; Blossom $1.55.

C. C. U. Redlands, Rose Navels $2.15.

C. C. U. Redlands, Sunflower Navels $2.05.

C. C. U. Glendora, Pansy Navels $1.60; Marine Navels $1.50.

Riverside Fruit Exchange, Red Globe Navels $1.60.

S. B. Fruit Exchange, Royal Knight Navels $2.05.

C. C. U. Hearst Station, S. P. Brown Navels $1.05.

San Antonio Fruit Exchange, King Navels $1.60.

Riverside Fruit Exchange, Blue Mountain $1.90; Red Mountain $1.65.

C. C. U. Redlands, Redlands Beauties $1.75.

Riverside Fruit Exchange, Red Globe Navels $1.55.

Riverside Fruit Exchange, Victoria $1.95.

PHILADELPHIA, Feb. 8th, 1904.

Riverside Fruit Exchange, Victoria Navels $2.00.

San Antonio Fruit Exchange, Foothill Navels $1.75.

A. C. G. Fruit Exchange, Charter Oak Stag $1.75; Charter Oak Hunter $1.70.

C. C. U. Riverside, Daisy Navels $1.65.

Riverside Fruit Exchange, Golden Rule Navels $1.75.

C. C. U. Redlands, Lion Head Navels $2.00.

O. K. Fruit Exchange, Bear Navels $1.75; Lark $1.70.

Riverside Fruit Exchange, La Mesa Navels $2.00.

BOSTON, Feb. 8th, 1904.

C. C. U. Redlands, Rose Navels $2.15.

Riverside Fruit Exchange, La Mesa Navels $1.85.

C. C. U. Redlands, Clover $1.45.

C. C. U. Redlands, Beauties $2.00.

C. C. U. Redlands, Clover Navels $1.60.

NEW YORK, Feb. 9th, 1904.

C. C. U. Riverside, Gypsy Queen $1.50; Carnation $1.55.

Riverside Fruit Exchange, La Mesa $1.65.

C. C. U. Pomona, Lilac Navels $1.50.

S. B. Fruit Exchange, S. S. Navels $1.45.

Riverside Fruit Exchange, Uncle Sam Navels $1.70; Fiesta $1.65.

S. B. Fruit Exchange, Royal Knights $1.85.

Riverside Fruit Exchange, Victoria Navels $2.05.

Total to date this season, 6424, of which 487 are lemons.

Total to same date last season 4842, of which 629 were lemons.

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Only a Drop in the Bucket of what the

PERPETUAL HEN CO'S. Incubators and Brooders

Are Doing all Through the United States

The fact that old customers are increasing their orders this season from eight to ten times what they bought last season, is proof enough of the superior merits of these machines.

After a series of the most unreasonable tests to which a machine could possibly be subjected to, the result is, the sales of these machines are over twelve times what they were the last season.

Perpetual Hen Co. South Haven, Mich., June 6, 1903.

Mr. J. M. Sontag: Please find check for which send me 5 more brooders and nine more brooder fixtures to go into my graveyard brooders. Your brooders on my farm are giving great satisfaction—wonderfuly so—and your lamps are a pleasure to care for. Also send me seven lamps. In haste,

O. L. Hathaway.

Perpetual Hen Co: Harmonsburg, Pa., July 12th, 1902.

Mr. Sontag: Dear Friend—Send me eight more brooders, No. 2 and No. 3 Storm Kings, and nine brooders fixtures, to be put in my chicken killers. Your three brooders I bought of you last fall have done wonders for me. As I wrote I have six days in the week to care for my poultry and I find it a healthy occupation. I have always made a complete failure of the poultry business, yet would not give it up. My personal acquaintance with you when I met you in Oil City, Pa., struck me you to be an honest man, and I never regreted it, as I have time and again raised every little orphan, and your incubator has beaten the hens hatching, and your book on "Nature's Laws," Price, $1.50, is worth $5000 to me. Rush this order please. Yours.

Rev. F. D. Sutten,

Baywood Poultry Farm. Results above Guarantee. A Beginner with Incubators.

Mr. Sontag: I have raised all the chicks three times hand running with your brooder fixtures. I made my own brooders. I could write you a book on what I know of failures and drawbacks. I have lost a fortune once in this business, but since I heard of your book, three years ago, I am making money fast. As you know, I'm a total cripple; cannot use my lower limbs at all. I do all my work with a three wheeler, worked by a crank. Who says cripples cannot run an egg farm. I make a good living out of it. I want 100 more Rhode Island Red eggs. O. Lindberg, Laflin St., Chicago.

Do not fail to send for our 96 page Catalogue and Poultry Book combined

To any one that is interested in the poultry business it is worth hundreds of dollars. There is more information in it than any book of its size ever printed. Mailed on receipt of ten cents in stamps.

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Manufacturing Agents for the Pacific Coast States.

1054 Third St., Petaluma, Cal.

ALIAS SUMMONS.

No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk.

ALIAS SUMMONS.

No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk.

=200-EGG HENS=

And How to Get Them

Buff Orpingtons
Courtesy of Captain Mitchell,
Santa Barbara

You want 200-egg hens? Undoubtedly you do. There is a way to get them. In fact, you can make them out of your own flock of poultry. Why be satisfied with hens that lay only from 50 to 100 eggs per year, when you can have hens to lay 200 eggs per year per hen?

We have learned how to make 200 eggs per year hens and we can make your hens lay that many if you will GET THAT AMBITION and follow these instructions:

1st. Commence with the little chicks. They must be fed on the proper food to FULLY NOURISH THEM so that they can be developed into good layers later on. Therefore it is necessary for their future welfare that these chicks be fed on COULSON'S CHICK FOOD.

Now, of course, it is necessary also that you take good care of pour poultry at all times. Be sure to keep them clean and disinfect their houses with lice killer at least once a week. If you are willing to do this then you are willing to strive for 200 egg hens and we can help you with the SCIENCE OF POULTRY FEEDING.

2nd. The pullets and hens that you wish to develop into good layers and 200 egg hens: feed them a warm mash every morning of COULSON'S EGG FOOD. "No other kind is just as good." NO OTHER KIND is good enough; so if you want 200 egg hens it is necessary that the hens get COULSON'S food for then they get the PROPER FOOD.

At noon, at toward evening, feed the hens Coulson's Scratching Food (which is composed of wheat, corn, hulled oats, etc.) and give the hens plenty of green stuff and plenty of clean fresh drinking water, feed Coulson's food every day and you will develop a strain of 200 EGG HENS.

If your feed dealer hasn't got Coulson's Scratching food, ask him to get it for you. Send for circular describing it.

Many of the largest poultry farms in the county feed Coulson's prepared poultry foods exclusively and purchase it in car load lots.

Situated on the coast in Marin Co., overlooking the Pacific ocean is the 1000 acre ranch of John McDonald, who has, in connection with his dairy ranch, about 2000 hens which are being fed on Coulson's Egg Food. Only a few days ago we shipped him 200 sacks Egg Food and also 50 sacks of Chick Food to feed the thousands of little chicks which he is hatching out.

William Bassett, Tomalis; Geo. Gaston, Two Rock; and A. D. Rezendes, Tomalis; are other large poultry raisers who feed carloads of Coulson's feed.

You can get cheaper foods than Coulson's but they do not contain all the necessary articles and if you want to develop good layers and make the most profit out of poultry, feed Coulson's prepared foods; costs a trifle more than some other kinds but gives GREATEST RETURNS.

When you buy common feed you pay $24 or $25 a ton and it contains about 100 pounds of protein. Now, a ton of Coulson's Egg Food contains about 200 pounds of protein or in other words, there is as much protein (egg and flesh making substance) in ½ ton of Coulson's feed as there is in one ton of common feed. So you are making a great mistake if you don't buy Coulson's feed.

The season is now at hand when the majority of the poultrymen are hatching out chicks by the bushels and a great many are hatched to what sad end?

Have you ever stopped to think how many hundreds, perhaps thousands, of chicks you would have if these fine hatches would not die off so rapidly?

It is to our interest and our business to prepare a feed for little chicks so that the poultrymen can raise the most chicks possible and to have them grow fast and reach maturity quickly and be big, strong, healthy chicks, and we do not only believe, but we know that we have a Chick Feed that fills the bill perfectly and properly.

Only a few days ago we sent 30,000 pounds of this Chick Food to one party. Our Chick Food is used and recognized to be the best by the most thorough and up-to-date poultrymen and the largest poultry farms in California.

For instance, Purvine, Thoergesen, De Rezendes, John Marshall and others out in Two Rock valley, where the largest poultry farms in California are situated. These gentlemen all keep from 3000 to 7000 hens and they have to hatch thousands of chicks every year to keep up such large flocks. They have been in the poultry business for years and have had plenty of experience and tried all kinds of feeds and ways of feeding chicks, and they have now decided that hereafter they will feed Coulson's Chick Food exclusively until they get at least 6 weeks or 2 months old. They have found out that they can raise the most chicks and the nicest chicks on Coulson's Chick Food. These men use tons and tons of our Chick Feed.

Now, perhaps you will say that you are going to try a little millet seed or cracked wheat, rice or oatmeal, etc. But, my dear friend, don't you know that you can feed your chickens on Coulson's Chick Feed and it won't cost you a cent more and that in Coulson's Chick Feed there is a variety of 20 different kinds of grains, seeds, meals and containing everything not only to fully nourish the chicks and make them grow to be big, healthy fellows, but also contains articles that will check and prevent bowel trouble and other fatal diseases.

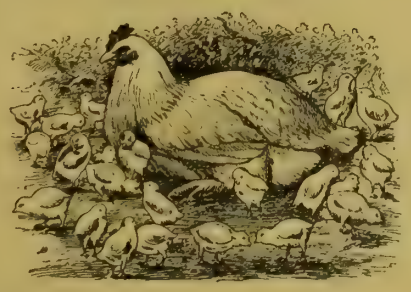
We are just in receipt of a letter from a poultryman in Windsor who says that he raised 550 chicks on Coulson's Chick Food and at the age of 2 months he sold the broilers for $3 a dozen on the place.

We have White Minorca chicks ourselves that are only 6 weeks old and weigh about 2 pounds apiece.

In conclusion, will say that for your benefit as well as ours we hope that you will raise all your chicks this year by feeding them Coulson's Chick Food.

It your feed dealer hasn't got it, send to us for it.

THE FEED
FOR
Little Chicks



$25 in Gold

We want pictures of chicks and hens that have been fed on Coulson's Poultry Foods and we offer $10 IN GOLD for the best picture of little chicks fed on Coulson's Chick Food.

$5 IN GOLD for the second best picture of little chicks.

$5 IN GOLD for the best picture of hens or poultry that are fed on Coulson's Food.

$1 each for the next 5 best pictures of poultry.

A package of KALE SEED free to everyone who answers this advertisement.

Address Prize Department,
A. R. Coulson Co.
Prizes awarded 1st of May.

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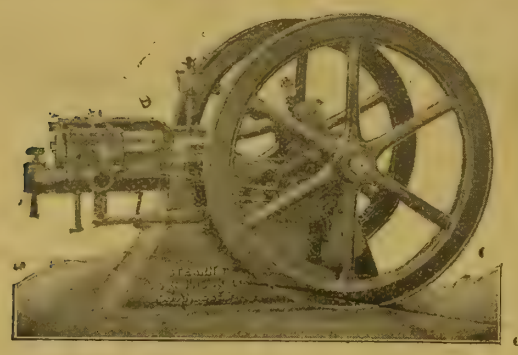

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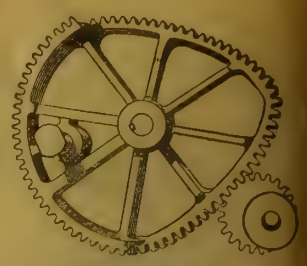

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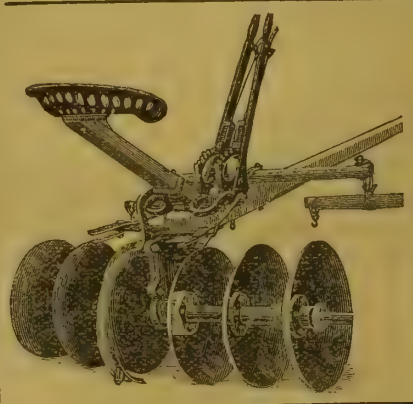

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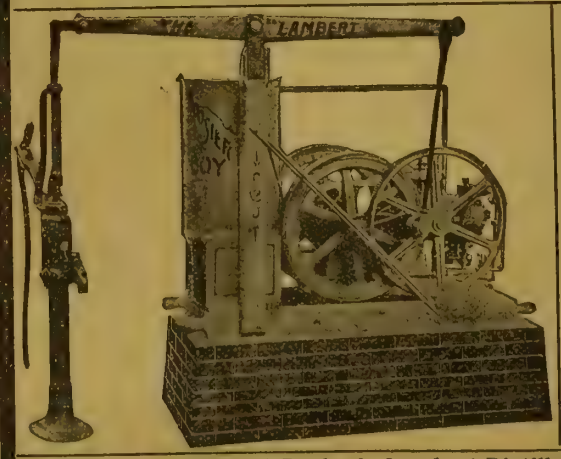

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California Cultivator

LOS ANGELES SAN FRANCISCO

FEBRUARY 19, 1904

IN THIS ISSUE:

Orchard Work for February and March.

Eucalypts for Timber.

Budding Orange Trees.

For a Butter Fat Test.

The Prune Market for the Season of 1903 and 1904.

AN OLIVE BRANCH.

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Nursery Trees Before Topping, ¾ to 1 in size, in the Nursery of Mills & Masters.

These engravings on this page show the trees as they come from the nursery. "But do they hold their growth in orchard?" See engraving of two-year-old orchard tree on page 189 of this Cultivator. That's only one of thousands which come from

Trees Topped Ready for Planting, 1 to 1⅛ inch size, in the Nursery of Mills & Masters

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 8 **LOS ANGELES, CAL., FRIDAY, FEBRUARY 19, 1904** Subscription $1 a Year

THE PRUNE MARKET...

By A. R. Sprague, President of California Fruit Exchange

A brief review of the history of prune marketing during the present season will clear the way for a consideration of its present strength or weakness. Early in the season the jobbers were smarting because of losses from the early purchase of prunes of the crop of 1902, which they were obliged to sell for less money than they had paid for them. They had received no protection from California or from the various firms from whom they had purchased. The utter demoralization which was the sad legacy left by the Cured Fruit Assocation, made values extremely uncertain. But early in the summer it became evident that the coast crop as well as the crop of prunes in Europe would not exceed fifty per cent of the usual product, and even with the carry-over from the crop of 1902 it was apparent there would be a heavy shortage in the world's supply. Therefore, by the law of supply and demand it was reasonable to expect a better price for prunes than had prevailed during previous seasons. At this time, however, a most injurious influence thrust itself upon the market. A leading speculative firm began to sell futures, promising to deliver in October the crop not yet grown, at prices which were unwarrantably low. This is a practice which is most damaging to the marketing of any article to which it is applied. It was this same practice, by the same speculative firm, that so reduced prices of raisins as to cause them to bring less than cost of production, previous to the organization of the California Raisin Growers' Association. Having sold freely at the low prices quoted, this firm sought to buy at a sufficiently low rate to enable them to fill their orders at a profit. In this attempt they were defeated by the general determination of Santa Clara prune growers in their co-operative organization not to sacrifice their prunes at such prices.

Thus, this, and other such firms, early found themselves practically sold out of prunes, and their interests then lay in pounding down prices so as to enable them to secure a large supply for the rising market which the situation promised. Thus their influence has been most detrimental to the market up to the present time.

No sooner did the executive committee of the growers authorize a 2¾ basis than these firms dropped at once to a 2½ basis, thus making very clear their purposes. Having extremely limited supply they were far more interested as buyers than as sellers.

The present supply of prunes is very largely in Santa Clara county, and in strong hands. The European consumption has been very active and has largely taken the hold-over prunes and those of very inferior quality. Outside of Santa Clara county, save in Oregon, there are no co-operative organizations of prune growers, and consequently these prunes were sold at prices made by the speculative firms, and have been used to supply the market up to the present time.

Owing to the utter disregard of the label law, most of these outside prunes were branded as "Santa Claras," and many of the old crop were mixed with the new and the mixture shipped as "new crop prunes." Thus up to the present time the prunes which have gone to the consumer have been largely of inferior quality. These are now pretty well exhausted, a very small supply remaining either on the coast or in eastern warehouses.

Owing to the fact that the prunes which must go into consumption are at least five-sixths of them now held in Santa Clara county, it might seem that the situation is unusually poor at this time, but quite the reverse of this is true. In previous years a large portion of this supply before this time had already gone into eastern warehouses, but not into consumption; therefore it is clear that we need be concerned only to know whether or not the supply is now greater than the expectation of a reasonable consumption during the months yet remaining of the present season.

This leads to the inquiry as to what is the present strength or weakness of the market. Under this head we may consider, first, that there is a very small world's supply of prunes, and these now of very fine quality. Second, the concentration of this supply is quite satisfactory. Three-fourths of it, at least, being under the control of growers' organizations or of growers who are willing to assist in any practical way in sustaining the market. The Willamette Valley Prune Growers' Association, at Salem, Oregon, which is the centralized organization for several local associations, state that they hold three-fourths of the prunes still remaining in Oregon, and they place the total supply at not to exceed three hundred cars. These are Italian prunes, and of course do not furnish very close competition for California prunes. This organization is most anxious to act in harmony with the California prune growers, and their assistance can be depended upon.

It is admitted that we have sold over sixty-five million pounds since the beginning of the present season to Europe alone, and an outside estimate by those most anxious to depress the market places the coast supply on January first at forty-five million pounds. This is probably from five to ten million pounds too high, but if it be conceded that on January first there remained forty-five million pounds of prunes, the situation even then is most encouraging, for it is admitted that the supply in all the consuming markets is extremely small and the best months for consumption of prunes are yet before us. So long as fresh apples are abundant and cheap in the east, people do not eat very freely of dried fruit, but these are already beginning to be scarce and high, and February, March, April and May are the months of heaviest consumption of California's dried fruit. Surely it is reasonable to expect that the present supply will all be called for before the new crop is ready for market.

The European demand is by no means supplied, and the best information shows a rising market with good demand from the heavy prune centers of Europe.

The weakness of the present situation consists of two things: first, the determination of speculative packers to break the market to constantly lower levels, and, second, the jobbers' distrust and their hesitation to push prunes upon the attention of consumers.

How can these weakening influences be met? In the first place the supply of cheap prunes must be cut off by a vigorous compaign of information, and the market must be strengthened by the harmonious and effective action in the eastern markets on the part of the growers' organizations. Every prune grower and every local packer must be made to realize that he had far better let the grubs destroy his trees than neglect to co-operate for the proper protection of the market for his prunes. We do not wish to have the cousumer pay more for his prunes than at present. We want to make it possible, rather, for him to buy them more cheaply. But if we sell at one-quarter cent more or less per pound, to the jobber the consumer never knows of it.

When the J. K. Armsby Company, through their coast manager, Mr. Freeman, asserts that only the general failure of the European prune crop has enabled California prune growers to market what prunes they have sold, it shows how desperate that firm considers the demoralization to be. They have no remedies to suggest except to cut the prices.

They have little at stake as compared with any prune grower whose living depends upon the prices received for his prunes.

It is a most unsatisfactory basis for a great interest to have its very existence depend upon the prices which speculators choose to fix upon their product or upon whether or not eastern jobbers choose to drum the trade for the sale of prunes. This must be changed. We must so advertise our product that eastern families will demand prunes from their grocers and these in turn will call for prunes from the wholesaler and jobber. We must place these within reach of the consumer at reasonable prices, conceding to the wholesaler and retailer only such profit as they are accustomed to get in handling other articles of common consumption. We must secure such official inspection of our product as will prevent worthless and unwholesome fruit from going forward to clog the markets for our good California fruit.

If there is to be hereafter any reasonable profit in growing California fruit, these things must be done, and it only remains to inquire how this can be accomplished.

The Poultry Yards of Petaluma. (See Page 184.)

Prof. Steubenrauch, of the University of California, visited Coachella recently and the Submarine thus comments on an important discovery he has made: "It was he who last year pollinated the only female date palm tree in the valley—alongside the land company's reservoir, Coachella—with the result that it bore the first edible dates ever produced in California, pronounced as fine as any grown in Persia or Algeria. And now he has concluded to establish a date palm experiment station somewhere in the Coachella valley. He has gone on to Washington to lay the matter before his superiors in the Department of Agriculture."

The Purissima oil well has develboped into a great gusher, with an estimated capacity of nearly 1000 barrels daily. If this continues it will be the second best well in California.

San Bernardino will be widely advertised at the St. Louis fair. 200,000 pamphlets will be prepared for distribution and proper persons will be sent to judiciously handle them.

CALIFORNIA CULTIVATOR

ESTABLISHED 1886
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal.

BY CULTIVATOR PUBLISHING CO.

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C. B. MESSENGER, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

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When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, Feb. 19, 1904

ITEMS OF INTEREST.

In the passing of Senator Hanna, the country has lost a strong hand in the commercial field. Not so much will he be missed in politics as in the numerous business enterprises in which he was engaged. It speaks much for his character for fairness and justice, that in all his eventful business career, employing as he did hundreds of laborers, he never had a strike among his employes. And today, no class of mourners in the city where he resided, stand about his bier with sadder hearts than the men who have been his helpers in the varied enterprises which he controlled for the past quarter of a century.

* * *

The effect of the war between Japan and Russia is already beginning to be felt in the slight advance that has come in prices on beef cattle and hogs. The longer the contest lasts the greater will be the effect on our export commerce. That the war between the giant and the pigmy will be of short duration is not to be thought of, for although Japan is having it all her own way today, Russia will wake up by and by, and then look for such a conflict as the world has not witnessed since the Civil War in the United States.

* * *

The New Raisin Contract.—The California Raisin Growers' Association is now presenting the matter of new raisin contracts. The last contract was only for one year, and it was with great difficulty that a sufficient number could be induced to sign for the one year. But the management find the difficulties of marketing under so short a contract so great that another attempt will be made for a longer one. The directors say: "We herewith enclose duplicate copies to every raisin grower for signatures, the prompt signing of which would enable your directors to make arrangements for packing, seeding and marketing the 1904 crop, from an independent standpoint, without having to submit to any dictation not in conformity with the growers' interests. It is, further, the only foundation on which reforms and improvements of our association can be affected, and would make possible the successful marketing of the balance of the present crop and enable the directors to clear the present indebtedness, and make a further payment to the grower by infusing confidence as to the stability of the association in the minds of eastern dealers."

May the growers have judgment enough to stand by their directors, or else elect those who can be trusted. It may not be so serious that it's "hang together or hang separate," but many raisin growers will be bankrupt if the separating idea is carried out.

Sign up, Fresno, for three years.

* * *

Prosperous Year in View.—The rainfall which now approximates two inches in Southern California, and much more in the central and northern part of the State, practically insures profitable crops and feed for the season. Of course we shall have more rain this month, while March is expected to bring several inches. Judging from past experiences, March is likely to be a wet month all through. With three inches more this month and six inches in March, and two inches in April, we shall get probably 13 inches of rain, which will do very well. Crops will be matured and prosperity assured.

* * *

The Slogan of the Hour.—There never was a time in the history of the fruit growers of Southern California when the command uttered in an ancient emergency, "To thy tents, O Israel," was more potent in import than at this hour, when influences are at work to break down the co-operative conditions which have made for good in the life of the orchardists in this part of the State. The Cultivator feels like repeating this ancient command (as a suggestion) at this time. A struggle is going on to tear down the well defined lines established by the Co-operative Agency through which the orange growers have marketed their fruit in the past, and through which they intend to operate in the future. To do so will mean demoralization, and we fear, lasting injury to the individual and combined interests of all fruit growers. "In union there is strength," is an old and well settled doctrine which will apply as well to commercial as to civic or political affairs. In the evolution of business industries, going on today, the necessity for unity of action among interested fruit growers is more necessary than at any former period in the history of co-operative efforts in California. To break apart now may imperil the fruit growing industry in Southern California—especially when a fight of the import of the one now being waged against the co-operative interests in this State is at its height in the east. Verily, there is need for every man to his tent.

* * *

Conserve the Rainfall.—The San Francisco Call very clearly sets out the necessity for conserving the rainfall in Southern California to counteract the possibility of drouth in the coming years. The Cultivator has repeatedly argued this matter, and shown from competent authorities, the ability of the State to conserve its own rainfall and to add to its productive capacity.

"California," remarks the Call, "is not exactly subject to drouth, but many sections of the State are liable to it, so that whenever here is a long lack of rain a period of anxiety follows, and there is a sort of lagging in business and in enterprise by reason of the fear of short crops for the coming season.

"Science cannot as yet set in motion forces in the atmosphere that will precipitate rain, but science can guard against the waste of flood waters when they come and can make the best use of all that nature gives. The topography of California is such that is would be no very difficult feat to conserve the rainfall so that hardly a gallon of it would flow at any season unused to the sea; and it is full time public attention was earnestly directed to that end, not as a matter of academic discussion, but as one of practical statecraft of the first magnitude."

* * *

Introduction Garden Goes to Chico.—It has been publicly announced during the past week that the plant introduction garden, which the department of agriculture has decided to locate in California, will be located at Chico. This will be a disappointment to many other sections of the State, for it was sought by many. But Chico is a good location. It is in Butte county, in the Sacramento valley, and in one of the richest sections of that rich valley. The soil is a rich loam of unknown depth. The climate is almost perfect and the supply of water abundant.

The station, or garden, will be filled with trees and plants from all parts of the world and in the course of years will afford a vast amount of information. It is also asserted that tender and substantial plants will be cared for in other stations in Southern California.

* * *

There is no section in Southern California more easily to be rendered immune from the effects of drouth than the Lompoc valley, covering some twelve thousand acres. Besides the Santa Ynez river, always supplied with more or less water, there is, at a depth of seventy feet a strata of water-bearing gravel that can be tapped by wells from which water can be raised by the pump sufficient to make certain profitable annual production to justify the expenditure.

* * *

An item in these columns recently, stated that there had only been five inches of rainfall in the Antelope valley in the past five years. The writer intended, we suppose, to say, five inches a year, at the particular point from which the item was sent. Another correspondent writes from the valley that the rainfall has been from 20 to 70 inches, and not a single animal has died from drouth. Well, we are wondrously glad to correct the report, but there's an Ananias out somewhere.

* * *

M. Yabu, Japanese commissioner to the World's Fair at St. Louis, has just arrived in San Francisco from the Orient. With him is Mr. K. Yabe, Japan's most celebrated decorator of china, who has charge of the decorations at St. Louis. Yabu predicts a great Japanese victory which will end the war. He says that Japan is now fighting the battle of the civilized world, and expects no help from outside nations, only sympathy.

KIND WORDS FROM AN OLD FRIEND.

The Cultivator is in receipt of a welcome letter from W. B. Thomas, years ago one of the owners of the Cultivator, with Mr. Goodwin. Some of the older readers will remember the firm was formerly Goodwin & Thomas.

Mr. Thomas is now in Wahiawa, Hawaiian Islands, and is secretary of the Hawaiian Fruit and Plant Co., growers of pineapples.

Mr. Thomas says, in part:

I want to tell you how pleased I am at the success you have attained with the Cultivator. Having reached the ten thousand figure, it will grow rapidly from its own strength. Nothing succeeds like success.

Your change to a general agricultural paper for the entire coast was a good one. You could never have reached the circulation you have if you had not done so.

I put in a good many years hard work on the Cultivator myself, and I know the effort it cost to get the 4500 (I think that was the number) subscribers we had when I sold out.

BY J. W. JEFFREY, LOS ANGELES

CRAZY QUILT.

The writer has before him a full-page editorial from a fruit trade paper of New York upon the orange situation in the east. The paragraphs of this editorial remind one of the pieces in a crazy quilt which "our mothers used to make." You know the more grotesque of figure, unsystematic in shape or "loud" in color these crazy patches were, the more they enhanced the value of the quilt as a monstrosity of needle work. Here are a few of these distorted relicts of the waste bag of past experience in the orange trade.

"A commission man never has a grower in his clutches; indeed it is the other way. It is a fact that the relationship between the California growers and the eastern merchants are such that those who have stuck to the commission men have other reward for their years of labor than mortgaged farms." (Vide the red ink sales of 1892, when California oranges were but few and cold-storaging of apples had not been invented. Old birds cannot be caught with chaff. One of them showed me a wall all plastered with account sales in red ink from a commission merchant who never had any one in his clutches—Ed.)

"If Naftzger attempts to put the commission men out of business for the good of the growers were they expected to sit quietly by and let him accomplish it?" (As these same commission men are not investing a cent in California fruit this season they cannot be considered in business. They are not merchants, but merely agents to whom the growers who deal with them have turned over their goods without a thread of restraint excepting the hope of further commissions—a thread so weak that the legislature of New York has been driven again and again by the victims of commission dealing to attempt a reform by legal enactment.—Ed.)

In proof that the commission men are not merchants we refer to another piece from the quilt: "The independent receivers here (New York) are P. Ruhlman & Co., Sgobel & Day, and William Hills. Of these only the Ruhlman Company has a store; the other two firms have suites of offices in an office building. Ruhlman often puts an up-set auction price upon his fruit, and withdraws it from auction, only to sell it ex-store, 'job' it to better advantage. This happens every week." (But they are merchants in the sense of dealing in their own "goods" in thousands of cases to the detriment of fruits consigned to them by their customers. This allegation has been sworn to in court, published in economic works upon the sale of farm produce and seems to be a fact no longer doubted by anyone. A leading daily paper of Los Angeles charges that the commission men often make from 50 to 75 cents a box by "jobbing" it in their own houses, presumably after the fixing of an "up-set" price.—Ed)

Contrasted with the California grower we find this choice bit of piece work: "The Florida orange grower is a king. He owns his own packing house. He consigns, or sells f. o. b. or on the tree, as he pleases. The State swarms with buyers, and solicitors on consignments from east to west. Things do hum down there; money is lost, lots of it sometimes, but not by the grower. (Sic.) Consign or sell, he gets the cream of it. No mortgages for him, prosperous citizen." (A king within an ace of bankruptcy. A king of chumps if he depend upon other than himself to conduct his business at the most critical period, the selling period, without bonds, let or hindrance. On the 16th of this month one of these kings, bankrupt, stated to the editor that he had seen the time on many occasions when he would have made money to have let his fruit fall to the ground, rather than to have offered it on consignment, "prosperous citizen." This kind of "humming" was experienced in California less than a dozen years ago when the clutches were on.—Ed.)

The crazy quilter proceeds to advise the California grower. He "can be emancipated." "Let the fortunate ones here and there build their own packing houses," proceeds the oracle, "and gather in their neighbors, and let them together market their own crops, send their own agent east, to do their bidding, and entrust their oranges to merchants who know how to sell them." The last seven words are the kernel in the nut the organs are seeking to crack for the commission men. The Florida king reigns supreme in his individual packing house. California's coming kings must take another tack and reign in bunches, pool their sense to equal one Florida grower. Crazy advice.

There is not a firm in the Citrus Union or a director upon the Board of the California Fruit Exchange who could not buy every tangible asset of a half-dozen average commission men with the money he has invested in packing houses or orange groves. If the money actually invested in the orange business were the criterion the commission men would not last longer than a June frost in the light of an investigation. We close with this choice bit of patch-work from an interview with a commission man of New York, reported last week: "If the California growers' expenses cannot be reduced and the freight cannot be made cheaper, plainly his only recourse is to get bigger prices. His only chance to do this is to put his fruit into the hands of merchants who know how to sell it. The merchants have invested their money in the business (sic), and they are bound to realize good prices in order to make their business pay. They have only their commissions toward this end; no perquisites, no trimmings, no graft of any kind." Ananias lost his life upon a truthful statement compared with this.

CITRUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

BUDDING ORANGE TREES.

From two to four years ago, large numbers of bearing orange trees were budded over to Washington navels. There were many costly failures where success might just as well have followed, had the operator known of some of the important points that were being worked out by some of the thoughtful budders. Considerable budding had been done in the fall, in fact buds were put in some orchard trees as late as December. These resulted usually in an uneven stand. It was demonstrated that in order to secure a good stand of buds it was necessary to force them into growth as soon as they had knitted under the bark of the old trees. If left there very long after the healing over process has taken place, the bark grows over the buds so as to prevent their starting readily. The most successful method is to insert the buds when the heavy growth is well under way in the spring. Buds are inserted only in those branches which are required to make a symmetrical top. The tops of these branches are not pruned at all but side branches which are not used in budding are removed at the time and the wounds are waxed over. When the budding is done in locations where there is no danger of damaging frosts, the entire tops should be cut off when the buds have healed over perfectly. This occurs from one month to six weeks after the buds are inserted. When the spring is warm and early, the buds will have healed over enough to allow topping; if the weather continues cold and the growth of the trees is slow, six weeks is about the proper length of time. The waxed bands that are wrapped around the buds at the time they are inserted, are taken off at this time and the entire top sawed off about an inch above the buds, which are arranged in a circle around the branch. Wax heated so as to flow from a paint brush is put over the cuts and the entire trunk and what remains of the branches are whitewashed. This prevents sunburn and gives the orchard a neat appearance. Numerous suckers and watersprouts will come out all over the trees. These must be rubbed off after the buds have made a good start, and when the buds have made a growth of about 18 inches they should be pinched on the ends to make them branch. This also hardens the young growth so that it will stand the winter cold better. There will often be such a strong second growth that it also requires pinching back. If the young tops continue to grow till late in September, they should be topped to check growth so that they will not suffer severely from frost.

Where frosts are liable to kill back the young tops, by far the better way is to girdle the tops above the buds and keep the tops on the trees all summer and winter. They may serve as a roof and no wrapping is required to prevent injury from frost. When spring comes the tops should be removed. A good top may be secured this way when trees with the tops removed at the time of removing band from the buds will be ruined by frost. It is important to wrap young tops from the previous spring's buds when the old tops are removed at the time of budding. Palm leaves give the best results.

GUM DISEASE ON LEMON TREES.

In answer to a subscriber who wants a cure and a preventive for the gum disease on lemon trees, we will say that the best remedy so far discovered in the Pomona valley for the disease, is to scrape off the diseased tissue and then apply a paste made by slacking equal amounts of quick lime and sulphur in enough crude carbolic acid till it is of the consistency of thick whitewash.

The cause of this disease is supposed to be due to too much nitrogenous matter in conjunction with water coming in contact with the base of the tree. It has, however, appeared where these conditions have not existed. There has not been any very satisfactory explanation given for the appearance of this disease. It is evidently a sap disease that affects the whole tree, but only breaks out in spots as a rule.

CAUSES OF FRUIT DECAY.

The Riverside Press reports a very interesting session of orange growers of that county at which Mr. Powell, inspector, sent here by the Department of Agriculture, spoke at considerable length on the "causes of fruit decay." In his remarks Mr. Powell proceeded to say that the Department of Agriculture had conducted exhaustive investigations into the decay of deciduous fruit and the deductions were that the more mature the fruit the less susceptible was the fruit to decay. The more mature the apple the better is its keeping quality. In the apple investigations it was found that scald was found almost entirely on immature fruit, and this held true in the case of individual apples, the scald appearing on the immature or imperfect side. Ripening of fruit at high temperature makes trouble. In warehouses the keeping of fruit at high temperatures and with imperfect ventilation is responsible for a high percentage of the decay. Poor, wet soils need correcting. It has been found that high tillage makes better fruit and more of it, but this gain is offset by the poorest keeping quality of the fruit. For himself he would rather cultivate and sell early. The commercial methods in caring for the fruit was declared by the speaker to be prolific causes of decay. Packers and shippers do not realize that they are dealing with a living organism—something alive. Every cell of the apple contains the elements of life, and it dies of old age when it reaches the end of life. When fruit is taken from the tree it ripens very fast; it throws off water and breathes faster. The higher the temperature the faster the fruit will ripen. Lower the temperature and the ripening process is hindered. Rot and disease also develop more rapidly in high temperature, and add to these an excess of moisture and fungus germs will develop ninety per cent faster than where opposite conditions exist.

Anything that jars deciduous fruit injures its keeping qualities. Mr. Powell spoke on his observations of methods sometimes used in local orchards and packing houses, and declared against the promiscuous and careless handling of oranges and lemons, and attributed not a little the cause of the decay of the fruit in transit to this factor. All these operations cut down the resisting qualities of the fruit. A very tiny bruise may provide a habitat for the fungus to grow in. The fruit is just as sensitive to care as the human body. Poor ventilation and bad sanitary conditions are responsible for much of the decay in packing houses. Any system of packing that does not allow of a free passage of air is defective. Warmth and humidity are the conditions most favorable for the growth of trouble.

Mr. Powell illustrated his talk with colored plates of apples and pears taken under different conditions. In regard to the decay of peaches, Mr. Powell said it was not an uncommon thing last season for fully 75 per cent of the fruit to be decayed in transit from the South to New York. He attributed this in part to the high temperature of the fruit when it was placed in the cars. Could it have been cooled before putting it into the refrigerator cars much of the decay might have been obviated.

WILL FRUIT GROWING CONTINUE PROFITABLE TO CALIFORNIA?

General Chipman, in the San Francisco Call, answers this question in the affirmative. He calls attention to the fact that a business has been created in fruit growing which in the year 1902 brought in to the fruit growers of the State between $35,000,000 and $40,000,000, and the returns for 1903 were even greater. In addition to the large sums mentioned there were also large returns to the packers, canners, wine dealers, commission men and transportation companies.

Treating another phase, General Chipman writes:

"The essayist who treated the subject of the raisin at the Fresno convention, (a Fresno raisin grower) counseled no more planting of raisin grapes. Statistics show that in 1898 the raisin crop was as large as it was in 1902 and in ten years the output increased only 10,000 tons. Look at the citrus industry. In 1893 it was 80,757 tons and in 1902 it was 225,668 tons, and the orange grower was never more prosperous. There was an increased shipment of deciduous fruits in 1903 at prices reported satisfactory. Dried fruits moved out very promptly at remunerative prices and nuts at a high price. To the intending settler in California," writes General Chipman, "I unhesitatingly say come and join the noble army of fruit growers and be not afraid of over-production."

CITRUS NOTES.

The San Dimas Eagle reports orange packing going on at the local packing house with about one-half the regular force. The whole number shipped for the season to date has been 64 cars. "San Dimas lemons," says the Eagle, "have established a reputation for themselves. Manager Harwood says the market is good and the returns very satisfactory.

"The fruit is sold just as fast as it can be prepared for the market. None is being held in storage, the shipment being four cars a week. Since September 1st the house has shipped about 70 cars."

* * *

After two weeks rest the packing houses in all the orange districts commenced packing again last week. From now till the end of the season oranges will be rushed to the eastern markets.

* * *

Last Saturday a meeting of the San Dimas Lemon Association was held and the Covina Lemon Association was admitted to membership. The San Dimas lemons have enjoyed such an enviable reputation throughout the Middle West, and the management of the packing house been so well conducted that the growers have been highly pleased with the results, so that one by one the neighboring growers have closed their packing houses and joined the San Dimas association, thereby reducing expenses, concentrating the lemon industry, and insuring the best possible results. The packing house has a capacity of sixty-five carloads, and already handles the lemons from Glendora, La Verne, Pomona and Claremont, and now that Covina has been admitted, will leave San Dimas the only association packing house between Azusa and Upland.

* * *

There is now on exhibition at the Chamber of Commerce two varieties of limes that are attracting considerable attention owing to the great difference in their formation when compared with limes grown in Mexico and some of the southern States. The San Jacinto Land Company is growing a variety known as the Castleman lime. It is perhaps the most of a novelty in the way of a lime that has ever been on exhibition, being of a large elongated variety, practically seedless and full of juice. S. Carson, living on Adams street, presented the Chamber with what is known as the Improved Lime. It was budded on a lemon tree and is in appearance very much the shape of a lemon. It is, however, considered a very superior variety and the juice is very acid.—Riverside Enterprise.

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LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

EUCALYPTS FOR TIMBER.

It is only during recent years that the real value of the eucalypts in the Southwest has begun to be realized. I say "begun to be realized," because I feel that we only partially foresee the value of these trees are destined to be to our region. It will be many years yet before we will come to anything like a full realization of the benefits that will result from an extended culture of this group of hardwood trees.

The eucalypts have alerady done much for the Southwest. Without them California would be a very different State. What we owe to them it is impossible to fully estimate. Without them, much of the landscape now modified by their presence would be comparatively monotonous and unattractive. Winds would sweep over regions where their progress is now checked by avenues and groves of eucalypts. The present increased interest in the planting of these trees will no doubt result in their becoming to many other portions of the Southwest the boon they have been to California.

Heretofore, however, the eucalypts have been useful principally as shade trees and windbreaks, and for fuel. To some extent, also, they have been used for fence posts and for piles. Only to a limited extent have they been grown for or utilized for the higher purposes for which hardwood timber is suitable. Furnishing posts for fences, piles for wharves, and fuel for the fireside is an unimportant office, and one that the eucalypts may well continue to fill, but not until they are grown for timber and made into the multitude of articles for which the various species are so well adapted will they play the part in our civilization for which they are especially fitted.

* * *

Besides their use in furnishing posts and piles, mentioned above, they are especially suited for the furnishing of telephone, telegraph, and trolley poles, of railway cross-ties, and of timbers for bridges and culverts. The rapidly increasing demand for poles to carry the wires for telephones, telegraph and trolley lines, makes the planting of eucalypts for these purposes certain to prove profitable. A large portion of the timber coming to us by water from the northern coast might be produced in Southern California, with profit to the growers.

But the most important purpose for which eucalypts can be grown is the furnishing of material for building and for manufacturing purposes. There is no apparent reason why timber for the construction of our agricultural implements, our vehicles, our furniture, and the furnishing of our houses may not be grown in the vicinity of where it is needed. Instead of shipping in these articles, or the material therefor, they could be produced from home-grown material. This idea is gradually gaining a foothold in California, and those who act acordingly will undoubtedly profit thereby. With material available for the manufacture of implements, furniture, carriages, wagons and railway cars, many industries would spring up that at present are not thought of in the region. There is little danger of overproduction of material, or even a probability of ever keeping pace with the demand.

As to the grade of land upon which eucalypts can be grown with profit. the net returns from the product will be the guide. It is now quite well established that the annual net profit from trees grown for fuel is $25 to $30 per acre in fairly good valley soil. This is ten per cent interest on $250 to $300, a fairly good valuation for average land. Hence it is apparent that the culture of eucalypts in good soil is profitable, even for fuel. But, as material for the purposes mentioned above, the timber would bring much more per acre. The cubical contents of an electric pole, for example, is only about one-fourth that of a cord of wood; yet the market price of the former is fully as much as that of the latter. Furthermore, the cost of the preparation of the poles for market could hardly be as great as the cutting of the trees into fuel. The cubical contents of 1000 feet of lumber is less than two-thirds that of a cord of wood; yet the market value of the former is several times that of the latter, even when the difference in the cost of manufacture is taken into consideration. Hence it seems evident that good level land may be profitably devoted to the growth of eucalypts for timber, even though their growth may not be as fast as of those used for fuel. But besides the arable, irrigable land, there is in the Southwest much land that is hilly, or for which there is no water supply, that can be utilized for timber production. The covering of these untillable treeless portions of the country with trees would be a distinct benefit to the region, as well as a source of profit to the growers. Already beginnings have been made along this line. From many parts of California news comes to the writer of the contemplated planting of extensive tracts of land to these trees, the largest undertaking being the planting of 3000 acres in the vicinity of El Faro, by Dwight Whitney, of Los Angeles. The first returns from eucalypts grown for timber would be tardier than from most other crops, but it is doubtful if those from any other crop will prove surer. It is now established that the returns from trees grown for fuel are regular and certain. The returns from those grown for timber would undoubtedly prove equally certain, and as surely perennial. A discussion of the species suitable for culture will follow in a succeeding issue.

* * *

SALT RIVER VALLEY WATER SUPPLY.

The supply of irrigating water has been very low in the Salt River valley thus far this winter. As in other parts of the Southwest, the rainfall has been very light since the first of October. The recent showers have been very welcome, but it is feared that the lack of snow in the mountains will cause irrigating water to be scarce next spring, even if the rains should be fairly heavy in the meantime. Without water storage, the major portion of the water that falls in heavy rainstorms goes by us to the ocean. The best that can be done in such cases is to store as much in the soil as possible, but the capacity of the present canal system is not sufficient for the diversion and distribution of all that the valley can utilize during any period of high water.

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When writing to Advertisers Please mention Cultivator

DECIDUOUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

ORCHARD WORK FOR FEBRUARY AND MARCH.

February and March being the two months which bring us the most rain, the orchard work should be so planned as to save as much of the moisture as possible. The regular pruning and cleaning up should be out of the way so that the plow and cultivator may be kept busy with nothing to interfere.

Orange trees require but little trimming, but the plowing should not be delayed later than February as it is probable that any serious breaking up of the fibrous roots near the surface at the time of blooming or before the fruit is set, may have a tendency to make the fruit drop. This is the opinion of some prominent growers, but we do not know if it is true. It is also a well known fact that a serious injury to a tree will sometimes throw it into fruit, and girdling is often resorted to to induce fruiting on some of our deciduous fruit trees and vines. But it is very good policy to allow an orange tree to maintain as even a condition as possible. Deep plowing, we would not advocate any other kind in a dry climate, always tears up numerous roots in an orange grove, and this operation should be done long enough before blooming time, to allow the trees to form a new fibrous root growth that will not be disturbed. If a green crop is to be plowed under it should be well rotted by the time the trees need the food contained in it. The roots of orange trees and some deciduous trees increase in activity in February. The most active growth comes on in April and May. From the middle of March to the middle of April is when the bloom is out in full. Very succulent crops should be well incorporated with the soil if plenty of moisture is present, after being turned under thirty days.

The proper time to plow under green manuring crops is not definitely settled yet, as no systematic work has been done along this line, but as far as we know it is probable that if the stuff is thoroughly rotted by the time the spring growth commences, the best results will have been obtained.

After the first general cultivation or plowing is well rounded up, cultivation after each rain or irrigation is about all that is necessary to do with the soil during the rest of the season. Some growers who have no green crops to plow under claim that plowing is unnecessary where the soil allows deep cultivation. Some of our best growers advocate and practice this method, but they do not do the work with factory made cultivators. They model one that goes as deep as a plow when horse power enough is used and have the blacksmith build it along those lines. Shallow cultivation without plowing will soon ruin any orchard as has been shown in numerous cases.

* * *

FERTILIZERS.

We have been asked to give an article on fertilizers, best for orchards and how to apply. This we cannot do justice to as we have been unable to find any grower who can swear what is the best or say how much or often it should be applied. There is one thing that we are sure of and that is, stable manure generally gives good results, but the finest oranges do not come from trees that are fertilized with it entirely for years. Some soils may need it more than others, but for continual use it is pretty well decided that some thing else should go with it. It is also reasonably sure that quick acting nitrates should not be used before the spring growth is about to start. How much is needed by an orange tree, no man knows by actual experience. All of our growers whom we have consulted and who have been in the business the longest tell us that they are at sea on this point with all of the elements used in fertilization. We have been told authentically that 20 pounds of nitrate of soda had been given to an apple tree where indifferent cultivation was given and there was no perceptible difference between the fruit, foliage or growth upon that tree and trees near at hand under similar conditions except that they had received no nitrate. One pound of this element is considered a full dose for a bearing orange tree. These are the most definite things that we know about fertilizers. When the Agricultural Department of the State University finishes some work that it has recently undertaken, it will be in a position to throw more light on the subject than has ever been given before. This work will not be completed for five or six years, as nothing definite can be worked out in two or three seasons. In the Gilbert and Laws Experimental trials with annual crops, it was found that after fifty years of cropping, the same ground yielded about as large crops at the end of the experiment as they did at first. The difference was no doubt due to the difference in climatic conditions. We also have climatic conditions to contend with.

* * *

PRUNING APPLE TREES.

Editor Cultivator: Can you give any information as to how to prune apple trees? Should the new growth all be cut back on trees ten years old or less? Or, suppose the trees made a growth of from one and a half to three feet last season, how much of it should be cut off? I would like to know especially about the White Winter Pearmain tree.—H. R. Case, Santa Ana.

It is as desirable to keep an apple tree from growing skyward as it is to so control any tree, but the habit of the Pearmain is to grow squatty and spread out. It bears its fruit all through the tree and will therefore stand considerable cutting back without reducing the crop to any great extent. The pruning should be confined to cutting back to laterals when it is desired to keep the head low. If it is desirable to fill in an open place a branch may be cut off to a bud on the side next to where the opening is. Cutting to a horizontal branch will have a tendency to force fruiting spurs. Should there be no laterals on branches that are growing too long, cut them back to the first side branch on older wood or leave it till the following season, when it will very likely have sent out laterals.

No severe cutting should be done at one time on those varieties which produce their fruit on the ends of the branches. White Astrachan and Famous are examples. If the trees have been neglected so that there is an abundance of long brush, part of it may be headed in one season, and part the next.

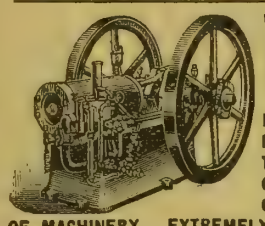
Three feet growth in the top of a ten year old apple tree will soon get it up in the air, and if it is cut back half each year, it will make a decided improvement provided the top does not become too thick. This may be avoided by cutting to laterals and thinning out.

* * *

MORNNG GLORY KILLED WITH A CANNON.

Editor Cultivator:—Can you tell me through the columns of the Cultivator the formula that Marvin Cannon kills morning glory with and oblige, W. G., Healdsburg.

We cannot give the formula at this time. It is our opinion that any concoction that will kill morning glory will also kill the soil for some time to come. The essential virtue of morning glory is that it stands very rough treatment and more than almost any other plant that grows. If Mr. Cannon will give us his formula we will be very thankful to him and will give it a test.



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LAWN BEETLE.

Mr. Maskew referred to the Fuller's rose beetle as the most serious insect pest of Southern California. We described and illustrated that specie recently; this week we describe the lawn or strawberry beetle. The fine drawings from which the engravings were made to illustrate this species were made by one of my students, Mr. Albert Barrows. Surely we may refer to this as the second most destructive beetle of our State. All who came from the East will remember the old May or June beetle of that section. This one may be called the May or June beetle of California. This one, however, is not confined to our State, but is found all over the country. It is closely related to the Eastern beetle, not only in structure, but in form, appearance and habits. In one important respect, however, it is quite different from its eastern congener. It can live on and does feed on both decaying and living matter. I think the one east feeds only on living plants.

* * *

Natural History.—We see by the figure that this is a beetle, and that the larva (Fig. 1) is a grub. It, like the one in the East, is often called, because of the color, the "white grub." The fine large brown beetle (Fig. 3) comes forth from the earth in May and June. At this time it eats foliage from the trees, and other plants, and always feeds at night. When we see fresh evidence of leaves being eaten and see no insect about them in the early summer, we may suspect this beetle to be the culprit. The female (Fig 3), usually larger than the male, is shown in the figure. The elbowed, lamellate antennae show that it belongs to the June beetle family. The female may lay her eggs either at the roots of perennial vegetation, like strawberries, or grass, or in the heaps of manure. These soon hatch, when the white, wrinkled grubs (Fig. 1), now very small, begin to feed and grow. The head of the grub is brown, and they have scattering hairs on their bodies. We usually find them somewhat curled up, as we take them from the earth. They live and feed in the earth for three years and so will often be found in the same place of two different sizes. The ones from Escondido commented on some time since, were quite different in size. When full grown they are over an inch long and pupate in an earthen cocoon or cavity which they form in the ground. The pupa (Fig. 2) is shown in the figure. They usually pupate in the early part of the third season, and very soon come forth again in the mature state. It will be some days before they finish mating and laying their eggs; and this is the time that they swarm in the various trees and feed upon the leaves. I have often known them to be so thick in the trees that one would think them to be, from the noise, a swarm of bees, except that bees do not swarm at eventide.

Fig. 1

Fig. 2

Fig. 3

* * *

Remedies—It is hard to suggest remedies where insects work under ground and are so numerous as are these June beetles. I have referred to the fact that they often commence their life in the stable fertilizer of the barn. It is unwise, then, to use such fertilizer, if upon examination, these grubs are found working upon it. Dressing a lawn or applying such fertilizer to strawberry beds often results in great injury. In case a lawn is badly attacked, which will show in the fact that the grass roots are all devoured so that the dry grass can be all raked off clean, it is well to spade up and replant the lawn at once. If these beetles are very common or destructive, which I have not observed to be generally true in California, then it may be wise to use white clover instead of blue grass for the lawn. Clover is not to the taste of these grubs and so is not molested. Clover also makes a very beautiful lawn. In the case of strawberries, if the beetles are working badly I think it wise to dig up and replant in another place, hoping that the beetles will not continue their evil work. Usually the one that entertains this hope will not be disappointed.

* * *

THE RED MITE.

Mr. R. B. Lane, of Redlands, has a lemon grove which is suffering with red mites. He thinks of using the sulphur spray as recommended by the University; but his foreman recommends the distillate spray. The foreman is at Hollywood, where the orchard is located, and reports that others have used the distillate and that "it does the work." He asks, "what is your experience and opinion?" I am glad to report that the success with the distillate about here of late, is very encouraging. At a large meeting of our Claremont Pomological Club, held last Monday, I gave the results of my visits in orchards of late, where the evidence was very conclusive. Orchards sprayed were clean of the mites, though the white exuvia and egg shells showed that the pest had been there in force before the spraying was done, indeed the spray was applied because of the mites. Other orchards close by, unsprayed, were suffering very seriously. The injury is threefold: the leaves drop, the fruit drops, and the fruit that does not drop is decidedly off in flavor. In some of the orchards the benefit of spraying six weeks before would amount to a big sum. Several present confirmed my statements. Mr. Le Roy, secretary of the club, sprayed his orchard, which was quite bad with black scale. He now finds it free of scale and there are no red mites, though his neighbors who did not spray, though some of them fumigated, were being seriously injured by this pest. Mr. Schureman, foreman of the Indian Hill Exchange, was conversant with the doings of the orchardists generally, and he was quite emphatic in commending the distillate for the mite as well as for the scale. There was no contrary opinion, though this is the center of extensive spraying a year ago. The president of the club stated these points and no one denied one of them. Proper distillate, properly applied, kills both the black scale and the mite, and the eggs of the latter so often that it seems to do effective work, though only one application is made. It does not spot the fruit, and is very much cheaper than is fumigation. It is very important that the work be done well, and usually it will pay the orchardist to be one of the party that does the work.

* * *

SPOTTING FRUIT.

There were many specimens of spotted fruit exhibited at the club meeting mentioned above. All agreed that was done by the thrip, or was done by the wind of the first week of December. It was explaned that both thrip and mites would be much more in evidence in such dry seasons, and that we might be sure that much more evil would be wrought in such dry years.

* * *

CALIFORNIA AS A BEE STATE.

The statistics taken at the late National Bee Convention, held at Los Angeles, were very pleasant to hear, especially for Californians. Of the sixteen that had produced over 50,000 pounds of honey, nine were Californians. Of the eight who had produced over 80,000 pounds, five were California apiarists. If we except W. H. Pain, of Hawaii, with his 300,000 pounds, though he had only 200 colonies, and which must have been a mistake, California takes the lead, with Mr. M. H. Mendelson, of Ventura, with 123,000 pounds. Mr. L. E. Mercer, of the same place, reported 100,000 pounds. If we could only be sure of rains, wouldn't California be the banner honey State? In regions of extensive alfalfa fields, where irrigation is carried on extensively, they get large honey crops, despite the drouths. Alfalfa honey is very fine, and the large profits in the San Joaquin valley are largely from this source. Without doubt the future of our State, with its large acreage of alfalfa, and its large planting of eucalypts, will offer special advantages to the apiarist.

ENCOURAGING SIGNS.

The wells about Claremont are reported to have risen of late more than fifteen feet. As we have had no rains at all, the source of this inflow must be a long way off, especially as the pumps have been kept steadily at work right along. A similar phenomenon was noticed a year ago.

* * *

FARMERS' INSTITUTE.

About six institutes will be held about the first week of April. Four are already located: Monrovia, Cucamonga, Elsinore and Hemet. Mrs. Minnie Sherman has promised to be with us and aid in these institutes.

APRICOT CRACKING.

John Thille, Santa Paula, Cal., asks: What is the cause of apricots cracking in the latter part of May and beginning of June; is there a known remedy and what is it?

It often happens that fruit will grow vigorously in the early part of the season, while there is abundant moisture in the soil, and will then stop as soon as the moisture becomes short. Now, if irrigation is resorted to, it will force another growth. This is sometimes more rapid than the fruit can accommodate itself to and the result is cracking of the fruit. In this case the only remedy is keeping up a uniform growth. Climatic conditions sometimes bring about the same results and these cannot be avoided. Still another cause of apricot cracking is shot hole fungus. When this disease is very bad, the fungus blotches will sometimes run into each other and, hardening, form a scab, a hardened surface on the fruit. This will crack open as the fruit grows and bring about the trouble. In this case the remedy is the Bordeaux mixture or the salt, sulphur and lime spray applied in winter before the buds open.—John Isaac.

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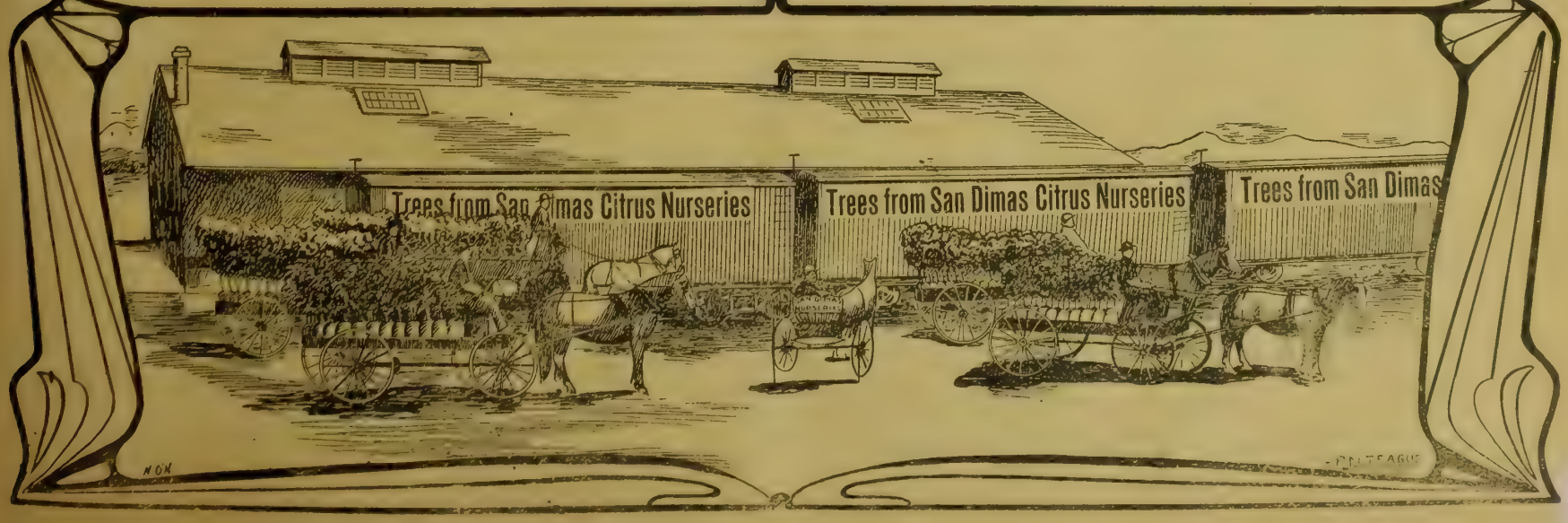

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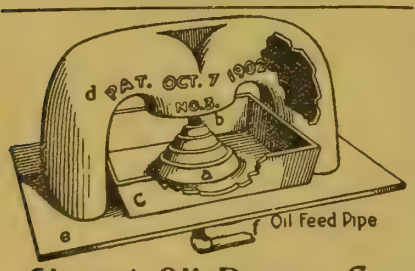

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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

MISCELLANEOUS.

Corning is agitating the subject of incorporating.

San Francisco's racing track is to be enlarged at great expense.

All the Japanese soldiers in Riverside have been called home to engage in the war.

The recent rainfall in Oakland has been so large that it has interfered with street traffic.

A large ore body, said to assay $450 to the ton, is reported to have been encountered in the Robert Young mines near Manvel.

The promotors of the proposed electric road between Sacramento, Newcastle and Oroville, promise speedy construction of the line.

Anti-saloonists in the Carpenteria Valley have won a decided victory and there is only one place between Ventura and Santa Barbara where liquor is sold.

Justice Lewis of Cloverdale has made an order for the destruction of three nickel-in-the-slot machines which had been operated in violation of the State law.

During the rainfall at Sacramento last week 2.59 inches of water fell in twenty-four hours. This is the heaviest precipitation in that locality for any like period during the past twenty-six years.

According to the word of Superindent G. R. Joughins of the Santa Fe Coast lines, the company will not erect any new shops or make any addition to the old ones in San Bernardino before January 1, 1905.

The Ventura County Club House Association will issue a special edition of the Daily Free Press in the near future, the date to be set soon. The entire proceeds to the daily will be turned over to the Club House Association.

The Escondido Times says: "San Diego has a new railroad-squeezer-bloom-boom on these days and property is soaring skyward in a hurry. The ground floor is about six stories from the ground already, and still going up."

Continued rain in Mendocino and Lake counties has caused a sudden rise of all rivers and creeks. Wednesday night the streets of Willits were under water, several stores being flooded. It was impossible to travel about town without hip boots.

The Board of Managers of the State Hospital for Chronic Insane have decided to advertise for bids for the construction of a detached brick cottage for female patients. The estimated cost is $45,000. Bids will be opened February 26.

President Benjamin Ide Wheeler of the State University has suggested the plan of giving weekly concerts in the Greek amphitheater, to be participated in by the varous musical societies of the university, to display the advantages of the Greek theater.

John Wadleigh, of San Francisco, whose five children were taken from him by the Society for the Prevention of Cruelty to Children, has filed suit for $30,000 damages against the society. He aleges that the interference of the society in his family affairs was unwarranted.

Joseph Brown, a former prominent banker of San Bernardino, last week found in his pasture a package containing jewelry valued at between $250 and $300. Several watches were wrapped separately in a fragment of an Eastern newspaper. Probably some thief dropped them in his hurry.

The highest price per front foot ever pair for Seattle property was given up when the American Savings Bank and Trust Company of San Francisco, Butte and Seattle capitalists paid $2666.66 a front foot for a lot at the corner of Second avenue and Madison street.

An effort is being made to erect a home for homeless boys who drift into San Diego.

A damaging fire has been reported from Fallbrook, on Sunday, in which something like $10,000 was lost.

J. H. West, of Needles, is about to buy the Waterman ranch of 600 acres at the mouth of Waterman canyon, for $25,000. He will erect a sanitarium on his purchase.

Ramon the Giant, a stalwart brave from the Manuel Indian Reservation above Highland, made a sensational attempt to kidnap Victoria Pabolo, the squaw of another brave, who some years since cast aside the habits of his tribe for civilized ways. For years the Giant has been enamored of the squaw.

The State Supreme Court last week decided an appeal in the case in favor of the Ukiah Water and Improvement Company and against the city of Ukiah. In a fire at Ukiah some city property was destroyed. The city brought suit alleging that the pressure furnished by the company was insufficient. The Supreme Court held that there was not sufficient ground for action.

The case of Justice vs. F. M. Robinson, Tax Collector of Orange county, appealed four years ago to the Supreme Court, has been decided in favor of the defendant, affirming the decision of the lower court. The action was brought by Justice, a tax payer of the Bolsa drainage district, to recover district taxes paid and alleged by him in the complaint to be invalid because the act under which the district was organized was said to be unconstitutional and the organization irregular.

HORTICULTURE.

The season's output of apples from Lompoc packing houses aggregated sixty car loads.

Nearly 18,000 men have been laid off in the last three months by fifteen railroads centering in Chicago. Seven other lines have laid off a large number of employes.

A news item from Shasta county states that during the past season there were shipped from there nearly 100 tons of apples. The average price received by the growers was 2 cents per pound.

Wm. M. Lauton, editor of the Paradise of the Pacific, of Honolulu, who is conducting some examinations in Southern California on fruit matters, is very enthusiastic over the future of the Hawaiian islands as a fruit growing country.

Orange growers of Ventura County are tired of having their orchards raided by wealthy eastern tourists, who stop their automobiles and help themselves liberally to the fruit. The growers held a meeting and resolved to cause the arrest of every one caught in their groves, irrespective of their apparent standing in society.

A. P. Griffith is shipping citrus fruits in extreme sizes. Pomelos in 48s and Kumquats in 3-4 lb. berry boxes. Mr. Griffith has orders for all he can furnish. For the benefit of those who do not know what kumquats are it might be well to explain that they are small Japanese oranges, oval in shape and run in size from an olive to a bantam's egg. They are preserved. They come high but people will have them.—Azusa Pomotropic.

AGRICULTURE.

Grain raisers in the eastern part of San Luis Obispo county are preparing to irrigate on a larger scale. Artesian wells are being sunk at Creston, Shandon and other points on the Huer-Huero river where the supply of water seems unending.

The Sacramento Union says the hop growers in Sacramento and Yolo counties are busy fixing up their yards and getting ready for the good season promised. Contracts are being made for the coming crop on the basis of from 15 to 17½ cents a pound. Many growers are expecting higher prices.

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200,000 Strawberry PLANTS
Arizona Everbearing from Eastern Plants. Guaranteed to be first-class in every respect, not mixed with any other kind, at $2 50 per thousand, if ordered within ten days.
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PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.
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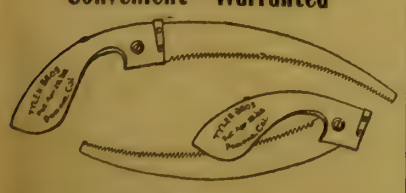

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Coast News and Notes

CONTINUED

LIVE STOCK.

The Pacific creamery at Fullerton has made arrangement to build a portable pumping plant to pump water for the farmers at a low rate or practically at cost.

A Kern county correspondent writes that rain enough has fallen in that county to insure good pasture and relieve the stockmen from future anxiety on that point.

The annual dairy report for Washington shows that 126 new creameries were established during 1903, and that the butter production amounted to 6,970,992 pounds, an increase of 17 per cent over 1902. The increase was general over the State.

A dispatch from San Luis Obispo says the rain of the last few days insures sufficient pasture on the stock ranges of that county. The grass is springing up rapidly. Stock men announce that there will be no necessity for removing cattle out of that county.

HORTICULTURE.

The Lindsay Arbor Club is an association formed for the purpose of encouraging tree planting in Lindsay.

The new lemon house of the Lemon Growers' Exchange of Upland has been completed. The house has a floor space of 11,250 square feet and a basement 50x75 feet, 8 feet high.

The Redlands Citrograph says that through the use of sprayers the yellow scale has been completely wiped out of old San Bernardino. About 300 acres of orange trees have been sprayed.

The latest piece of grafting we note is that which is being worked by a set of promoters in the northern part of this State. The fruit grower is told that for the small sum of 50 cents he can get his trees bored with an auger and a compound poured in that will inoculate his trees against all forms of pests. The theory being that the sap, or circulation, will carry the odor of the dissolved ingredient to every part of the tree and drive away all forms of pests. This is simply a fake proposition and the orchardist who consents to imperil his trees in any such manner is foolish in the extreme.

AGRICULTURE.

Early grain continues in excellent condition, says the Sonoma Reporter, but its growth is slow, owing to cold weather. The acreage is reported considerably larger than last season and prospects are bright for excellent crops.

Beet planting has commenced on Chino lands. The disposition is to grow a larger acreage this year than last. The Champion says: "Applications are now covering 6000 acres and from 1000 to 2000 acres more are in sight.

L. Hache, agricultural superintendent of the American Beet Sugar Company in Chino, says that beets are being planted at Oxnard now. From 3000 to 4000 acres of land there are under irrigation systems, and can grow a crop regardless of rain.

A dispatch from North Yakima, Wash., states that Joe McNeff, representing Uhlman Bros., of New York, made a hop contract with S. Huntington for 60,000 pounds of the 1904 crop at 20 cents a pound. This is the largest figure contracts have yet been made for, and is believed to be the largest figure ever paid on futures for a number of years past in the State.

The California Raisin Growers' Association has sent to growers a three years' contract for signature, which, if promptly signed by a major portion of growers, will allow the directors of the association to make arrangements for the packing, seeding and marketing of the 1904 crop independently of any interest not in conformity with their own. The association further states that if enough signatures can be obtained the marketing of the balance of the 1903 crop will be greatly facilitated.

MISCELLANEOUS.

Long Beach is to have a new pier costing about $80,000.

The Pasadena Masons are going to build a $50,000 temple at once.

The wild duck season closed on Monday the 15th. All wild birds belong to this class.

Geo. W. Lord and Dick Richardson have discovered a fine deposit of clay near Corona.

Monrovia has just let the contract for a new, modern school house to cost $23,257 and to be completed in 160 working days.

The trustees of the city of Alhambra have donated $50 to the Leagues of Manufacturers to assist in fighting the claims of the oil roads trust.

The Pacific Homestead, of Salem, Oregon, comes to our table much improved in typographical appearance and editorial and special matter.

On Wednesday morning of this week engineers began running a survey for an electric line of road between San Diego and El Cajon valley.

Munger & Sons of Yuba City have the only olive oil plant in the county and this winter they have turned out several hundred gallons for the market.

The Waterman ranch of 600 acres, located near the Arrowhead Hot Springs, has been sold at a price reported to be $25,000. This land carries valuable water rights besides the famous springs.

The Salt Lake railroad, on Saturday night and Sunday morning, stole a march on the citizens of Riverside, and despite injunctions laid a track from Tenth to Seventh street and within one block of its new depot, from which it has been divorced by the injunction issued by the court.

Ventura county will not collect the usual poll tax this year. The Democrat in commenting upon the action of the supervisors, says the collection of the tax this year was not necessary and that more harm than good would have resulted had the poll tax law been enforced.

The Coachella Submarine gives this item: H. W. Cottle has inaugurated a movement for the sinking of an artesian well, to be paid for by subscription, as a co-operative experiment; the well to be bored in whatever part of the valley may be decided upon by a conference of the subscribers.

McKeown, the defaulting secretary of the Berkeley University, was given a sentence of six years and eleven months for stealing upwards of $60,000. With the usual "good behavior" allowance, this means that he will go free in about five years. Prorated with his stealings, it is about $12,000 a year. —Alameda Encinal.

Plans are on foot at San Bernardino for a wide boulevard between San Bernardino and Colton, to follow the San Bernardino Valley Traction Company's route. The thoroughfare is to be eighty-five feet in width, not including the sidewalks, and will extend more than a mile through one of the largest orange groves in that section.

The new directory of the State University at Berkeley has just been completed and put on sale. The total number of students for this semester is 1216, a decrease of 145 from the number enrolled for the last. The number of under graduates shows a decrease of 120 as compared with last semester. Of the 1216 students now enrolled 88 are in graduate standing, 1020 are under graduates and 108 are special students.

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One-year Buds on two-year roots.

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C. H. SESSIONS, ASSOCIATE EDITOR

HINTS FROM MODERN DAIRYING.

The value of skimmed milk cannot be too often impressed upon the brains of cow keepers and calf and pig raisers, says Hon. F. D. Coburn. It costs more to feed a heifer calf well from the day it is born to the day it begins to give milk, but it is the cheapest. A good cow is a good cow, no matter to what breed she belongs, and a poor cow is a poor cow in spite of long printed pedigree. Continuous good feeding and care, coupled with persistent good milking, will improve your cows from generation to generation. There is a difference between milkers that is alarming. Some can and do do good milking; some can, but don't and won't; others cannot to save their lives. Our wives should be listened to with great attention as regards dirty pails, hands, cans and so forth.

Excessive feeding of grain is foolish. A good pasture of mixed grasses is good feed enough for any cow, and to leave out grain for a while tends to her health and future usefulness. Most dogs hurry cows and far too many men and boys do, too; and men and boys do worse when they throw stones and clubs at the cows. Milk only is pure that no particle of filth from the stable has ever contaminated. Filth can be excluded from milk in no way but by keeping the cows from being soiled, and cows can be kept from being soiled only by having their stalls so arranged that they cannot lay down upon their droppings. The best calves from the best cows, which were the calves of the best cows, which were the descendants of the best sons and daughters of generations, are the calves to raise. There lurks in my mind the pictures of old Dobbin, old Homely, Fillpail and Tame, some of my father's best cows, which had been bred for generations on the principle of the "survival of the fittest." Their immense udders could and did carry to the barn in June, from their mountain pasture, over half a bushel of milk.

A TALK ON WASHING MILK CANS.

This is a homely subject, and at first glance some will say, "anybody can wash a milk can and get it clean, too."

The housekeeper washes the dinner dishes and puts them in the cupboard shining and clean, ready for the next meal. But should a surgeon require a knife or spoon to aid him in some surgical operation that spoon or knife must be treated with some antiseptic to clean it for the operation. These illustrations simply show the relative meaning of the word clean, and those things clean for one purpose are not clean for other purposes.

Our knowledge of what constitutes cleanliness in all these lines also gives to the word different shades of meaning. For instance, what is clean to one person may not be clean to another, even though it is to be used for the same purpose.

This leads us to the subject of dirty milk cans and how to clean them.

Taking the subject in general, we will say that in most cases sour milk rejected at the creamery is the result of the cans not being properly washed. To know when a can is clean, we must first know what constitutes dirt in this relation.

We have told people that their cans were dirty, and have right there raised a young cyclone. They evidently thought that we meant that dirt was sticking on to the cans in chunks big enough to see. (We have seen some cans in that condition.) A dirty can may, to all appearances, be clean, and here is where nearly all the trouble lies. The study of bacteriology reveals a few things to us along this line. From it we learn that the root at the bottom of our trouble, and out of which it grows, is a minute plant called bacteria—so small that it can only be seen by a powerful magnifying glass. These minute plants are found everywhere, in air, water, soil, and, in fact, everything. All decay is caused by them.

Out of myriads of different species a few thrive in milk and grow and multiply by living on the solids found in milk. As these minute plant growths absorb nourishment from different elements of the milk, these elements are themselves changed in form, and we soon begin to notice in the changed condition of the milk—it becomes sour, may have offensive odors, and it may become thick without souring, etc., and is soon unfit for use. When milk is first drawn from the cow, it is entirely free from germs, as bacteria are sometimes called, but the milk no sooner comes in contact with the air than it begins to have these germs introduced into it. It will be seen from this that were it possible to keep all germs away from the milk, we would have no trouble. If the germs are in the milk can when we pour in the milk, they at once begin to grow, and sour milk spoils. It is evident then that a can containing any of these germs is a dirty can.

Bacteria, or germs, grow best under certain conditions, just as do wheat and barley and oats.

Seed for a farm crop must have warmth, moisture nad food on which it can live and thrive. Deprive it of any of these and the result is disastrous to growth, as we can all of us testify as to the lack if moisture in past seasons. These three things have certain proportions or degrees at which the growth thrives best. Just so it is with bacteria.

Milk makes an excellent food for this minute plant because it supplies food in most available form and a proper kind for best and most rapid development of the species we are concerned with in dairying.

The temperature at which bacteria grow best ranges from 60 to 110 degrees.

Now, suppose we wash a can in luke-warm water, and turn it up to drain. We have supplied just the right conditions of temperature and moisture for the germs to grow and in all probability the water left on the sides of the cans will be milky, thus supplying an abundance of food. The can is seeded thoroughly, so to speak, with germs which will begin at once on fresh milk when put into it. Bacteria, like many of the larger plants we see about us, can stand great degrees of cold, but cannot

The West Coast Stock Food Co.

Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.

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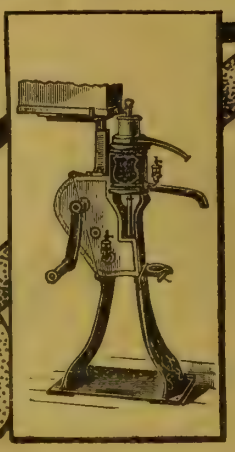

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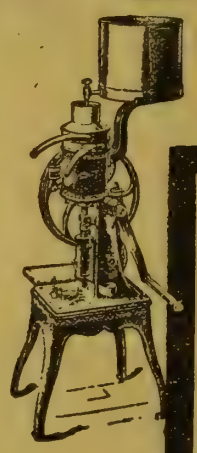

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survive great heat. So here is the key to their destruction. You must destroy them by heat. For this boiling water is the farmer's best weapon, unless he be supplied with a steam boiler and can turn live hot steam into the cans. The water must be absolutely boiling hot, nothing less will de the work perfectly.

WILL THIS PROPHECY BE REALIZED.

The Farmer's Review, Chicago, says that "the time will come when the best butter will be made in the dairies, just as the best butter is now made in the factories. It is true today that here and there are private dairies in America that are making butter that is fine in quality and that brings in private trade a much higher price than any other kind of butter on the market. Today in all of our general markets factory butter is the most in demand and brings a higher price than farm butter. The reason is that dairy education has been more generally applied to the factories than it has to the dairies, because the latter are so numerous. How long it will be before the light of modern methods has reached the last dairy we cannot say. Then the conditions will have been reversed, as to the demand for butter. Dairy butters will then top the market and they will be of high quality. Naturally the farm dairy has the advantage over the factory. If all the appliances are right, if there are means at hand for the production of pure milk and means for the manufacture of butter, the farmer can make a better product than the factory. He has all things under complete control. He can ripen the cream as he desires and his work cannot be neutralized by the neglect of other men on other farms."

This may be the experience in the United States, but if all the milk growers be educated up to the standard of supplying either perfect milk or perfect cream to the factories, the cost of the manufacture of butter will always be much cheaper at the factory than on the farm.

FOR A BUTTER FAT TEST.

Editor California Cultivator: Referring to an article in your valuable publication January 20, 1904, for a test of breeds, I think that the Jersey Breeders' Association to a man would be agreeable to such a test as herein intimated. To be of greatest value to breeders and dairymen the test should be for one year; charge each cow up with what she consumes, giving credit for milk given according to butter fat contents, at market values; the gratest net result wins. Let the owners of each breed prescribe quantity of feeds to be fed, or feed each cow according to their respective requirements, having in view at all times the profits over feed consumed. The reason I say let the owner of each breed prescribe the amount of feed to be used is that it is known that the digestive capacity varies greatly in cows. I believe in giving each cow all she will take, digest and respond to. A cow weighing 1200 pounds requires more feed than an 800 pound cow. The 1200 pound cow has just 400 pounds more cow to furnish nourishment to sustain, and if not fed more than the 800 pound cow she cannot do her best. So let each cow be fed according to her respective requirements, for best results, the cow producing greatest net returns in butter fat the winner. This is the kind of a test that dairymen are interested in—not a butter fat test for one milking, day or a week's test—we have to feed the cow the year round, so we are looking for yearly profits. While the Jerseys are beautiful to look at, looks are not what dairymen are looking after, yet if we have beauty and quality combined, as I think we have in the Jersey cow—a cow that will give the greatest net returns for feed consumed. The one trouble is, we cannot get breeders of the milk breeds to meet us in a test, at least I have heard of no one willing to engage with the Jerseys in such a test, for Jersey breeders have been agitating a test of this kind for years. C. S. B., Riverside.

* * *

WILL FURNISH A HOLSTEIN.

Editor Cultivator: In an article published in your excellent paper of January 1st, Mr. White suggests a butter fat test between three or four breeds of the best type of butter cows. I have the honor to own a Holstein which, under favorable conditions of test, I would be pleased to enter in this contest. When I say "favorable conditions," I mean as to time, feed, care, etc. I think the test should be for three months, the feed consumed reckoned against the cow, and the milk after separating taken into account. I am sure such a test would be of interest and valuable in results. —V. C. M., Monrovia.

FEEDING THE HORSE.

We often have to deal with horses that are greedy feeders, those which push their food into their stomach when but half masticated, and in consequence, a large portion of the nutriment is wasted and besides it takes more grain to feed them and they are more predisposed to colic, worms, scours, etc. With many horses, this is due oftentimes to a bad condition of the teeth or the age of the horse. The teeth should be looked after. We have also found that by putting a few stones about the size of a hen's egg in with the feed the horse will be compelled to take food slowly and more carefully. Especially have we found this to be of benefit where the horse is inclined to bolt his food, thus while nosing among the stones for more, he will be grinding that which is already in his mouth and will begin to improve immediately.

Delicate feeders require care and patience in preparing a tempting diet. Some will eat if given a little at a time, but will not touch it if a large quantity is placed before them. Others will not eat unless their food is accompanied with water and some refuse to eat through nervousness or timidity. Boiling linseed oil to a jelly and mixing with oats will sometimes tempt a delicate feeder or hay slightly dampened, also wet bran with the oats makes a meal that they will relish. Where sick horses are being fed mashes, these mashes should be given in moderate quantities and carefully prepared. If poured into the manger, be careful and remove all leavings, otherwise it will sour and effect other feed put in subsequently. We have fed bran mash with success made as follows:

Put two quarts of bran into a pail or tight box and pour boiling water over it. Mix thoroughly and feed when cool. To make linseed mash, boil 1-2 pound of unground flaxseed in two quarts of water until reduced to about three pints. Put in bran or shorts and mix.—Country Club.

STOCKMEN FIGHTING REPEAL OF ACT.

Dispatches from Wyoming state that the cattle and sheep men have combined in opposition to the proposed repeal of the Timber and Stone Act, the Desert Land Act and the commutation clause of the Homestead Act. One dispatch states a summary of the views of the convention: "Absolute opposition to the repeal of the land laws, strong feeling that the scope of the laws should be enlarged and desire that the Government cede all lands but agricultural (irrigable) lands to the State in order that the range may be leased to stockmen."

Here crops out the original Wyoming effort to secure State cession, a policy of turning over the government lands to the State legislatures so that the State legislatures can turn them over to the stockmen. The history of the various State grants from the government, such as Nevada's two million acre grant, California's great swamp land grant, and many others, is surrounded with too much unfairness to the public in general to admit of Congress for a moment considering such a course as is suggested by the Wyoming stock interests.

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OF SOUTHERN CALIFORNIA
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C. W. LEFFINGWELL, JR., Sec'y.,
Whittier, Calif.

Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
Geo. W. Thomas, Riverside, Cal.

FOR SALE OR EXCHANGE
For Registered Berkshire sows, Jersey bull twenty-one months old.
W. Jay Cole, Anaheim, Orange Co., Cal.

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REGISTERED JERSEY CATTLE
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Sultane's Golden Fern, 65304
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SERVICE BULL FEE REASONABLE
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Service bull "SARGENT FOX," 64833, Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the Island has ever produced."

JERSEYS
PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
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Jerseys with a record as milk and butter producers
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HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
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HIGH GRADE, STANDARD BRED JERSEYS
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Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
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Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
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FOR SALE
A handsome golden fawn yearling son of
SIGNORA BRUCE NO. 154547
Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address
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OAKHURST JERSEYS
PROPERTY OF L. L. BRADBURY, ESQ.
SONS OF **Imported Golden Marquis,** FOR SALE
ALSO
MELIA ANN'S LAD and a YOUNG TORMENTOR BULL
The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
James Houston - Duarte, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

FEEDING FOR EGGS.

In our last we had a talk on feeding the hens, which we selected for breeders, and I advised keeping the breeders, which should be the best layers and most vigorous birds in the flock, separate from the general flock in order that, next season, the pullets should come only from the most vigorous and prolific layers. Now we will attend to the rest of the flock, remembering that now we want to make the most money possible out of them or, as the saying is, we must push them for all they are worth.

The first thing to be done is to remove all the male birds from the flock (excepting those in the enclosed breeding pens) and dispose of them. The reason for this is the hens will lay as well without the males and the extra cost of their food will be avoided. The eggs also not being fertilized, are much superior for market purposes and keep fresh longer than the fertilized. When eggs are fertile there is the little germ of life in them, the tiny seed, which, nourished by the other contents, develops into the chick, but if the eggs are kept too long, or are in any way injured by heat or cold, or cracked, or a pinhole in them, the little germ dies, then there is death in the egg shell and corruption, and the egg is called stale or rotten. On all the large egg farms for commercial eggs no males are kept except those in the breeding pens.

In the forcing for eggs the pullets should be hatched in February, March or April, kept perfectly clean and free from lice during the summer, put into their winter quarters in September, so they may get used to them. Always remember that a change of any kind will cause a cessation of laying for a time. A change of feed or in the order of feeding will do this, a change in the position of the nests. Scaring the birds in any way by dogs or other animals coming near them will affect the egg production. A strange male bird being put into a pen will reduce the number of eggs. Any change and every change should be avoided.

The forcing for eggs means putting into the egg machine the materials to make the eggs and as much of the material as the hens can possibly contain without detriment to their health. To accomplish this the young hens or pullets must be made to exercise vigorously, and for this reason advise feeding grain in the scratching pens and making them work for it, and green food at noon, three times a week substituting green cut bone, if it can be procured fresh, about an ounce for each hen. And for the last meal at about four o'clock all the mash they will eat up clean.

The mash, being the meal that is to balance the food of the day, so as to make the balanced ration of 1:4, that is one part of protein to four of carbohydrates (this is the nutritive ratio of the yolk of an egg) should be fed liberally so that the hens may go to bed with their crops full. To the mash may be added three times a week a teaspoonful of red pepper for every twelve fowls, or one of the many condiments or egg foods advertised.

The mash may be made with one of the many "balanced rations" now sold at the poultry supply houses, always remembering that to change the ration at any time during the laying period will affect the egg production.

The mash I have used with success for years when I did not use the prepared foods has been two parts bran, one part each of rolled oats, corn meal, one-tenth part each of dried blood, ground bone, cotton seed meal, ground charcoal, occasionally malt sprouts, a little salt, with about five parts of finely cut clover or alfalfa—green or steamed, the whole mixed in a crumbly mash, either with the alfalfa tea, or water, or preferably with skimmed milk, to a crumbly consistency. To this could be added three times a week the red pepper or one of the many stimulants I mentioned.

* * *

For two years when my daughter and I were without help we fed the dry mash and reversed the order of feeding. The dry mash I used was two parts bran, one part rolled oats, one part feed meal or corn meal, a quarter of a part of ground bone or dried blood, a little charcoal and salt. This we mixed dry, without a drop of moisture, fed in troughs, dry, in the morning. The hens at first did not like it but after they became accustomed to it they laid just as well as with the wet mash, and we liked it better because it was much less work to feed four or five hundred fowls with the light dry stuff instead of mixing water with it and carrying round heavy buckets. The fowls drank a great deal of water with the dry mixture, they also had to eat it very slowly as they could not swallow it fast. We fed the dry mash (about a spoonful for each hen) in the morning, weighing and measuring it at first and giving the hens all they would eat in the long day. At noon we fed greens, and at four the grain, wheat, oats, corn, barley in the scratching pen. This gave us clean feeding in the afternoon and was much easier for us, and the hens did admirably. By feeding the damp, crumbly mash in the evening (four o'clock) the hens can be coaxed to eat more, also one can put into the ration more stimulating food than in the dry mash and as it all adheres together the hens have to swallow it. Some hens are quite fastidious and most hens at first dislike the new balanced rations. As a rule hens do not like linseed meal or oil cake, some do not like buckwheat in any form, but by persevering with them they finally acquire the taste and then all goes well. They all like clean table scraps and bread, and everything of that kind they should have.

MY EXPERIENCE WITH BUFF COCHINS.

Of all the Cochins, the buff variety is not only the most popular, but most plentiful, and long ago were called Shanghais, originating in Asia. A few were brought to England, where they created great admiration, which developed into a perfect craze. There has probably never been a variety which caught the fanciers by storm as

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

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RANCH: 2½ Miles South of the University Station, on Vermont Ave. Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena All Stock is Kept at Ranch, Phone: Sunset, State 82

Largest Poultry Supply House in the United States

Have just received another carload of

GENUINE

BEEF SCRAPS

$3.75 per 100 lbs. Special quotations on quantities.

HENRY ALBERS 315 South Main Street Los Angeles, Cal.

Winning White Plymouth Rocks

Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.

Yards closed Sundays. Send for illustrated circulors.

T. FRANK ANDERSON, HOLLYWOOD, CAL.

SUCCESSOR TO MRS. A. BASLEY

500 CHICKS $4.00 **Four Dollars** $4.00 500 CHICKS

WORTH OF

Croley's Dry Mixed Chick Feed

Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.

25-lb. Sack for 125 Chicks $1.00 | 50-lb. Sack for 250 Chicks $2.00 | 100-lb. Sack for 500 Chicks $4.00

Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.

Geo. H. Croley, Poultry Supplies

508 SACRAMENTO ST., SAN FRANCISCO, CAL.

ey did. Fabulous prices were asked d paid. Then the fakirs got in their ork, claiming qualities for them that breed can ever attain. As a matter course, because they did not and uld not come up to such a standard, ey were soon condemned, and lost vor abroad as well as in this coun- y. They are lumpy in appearance, e female having scarcely any back all apparently, the cushion being so ll, in which the tail is buried. They e short-necked, broad-breasted, legs ort and set far apart, head small, ith comb short and neat. They have tle desire to roam, and will do as ell yarded as when given range. Tak- g on fat readily they must be fed proper sized ration, if egg production anticipated. While not ranking as 0-egg per year layers, they lay the tire year, by taking short rests after elding about 25 eggs. Subsequent to rest of about ten days they will lay ain, then take another rest, and this ey keep up through the moulting sea- n and the fall and winter months. hile they are broody, they will set ywhere, if given anything in the ape of an egg—but are clumsy and t to break the eggs, unless the nest built low and roomy. Having im- ense feathering around the hocks, ighs, fluff, etc., she can hover 25 icks as easily as a Wyandotte could , and they have no equal for affec- n, docility and a liking to be han- d and petted. My liking for them gan when I discovered that they re almost immune to roup, diarrhoea d lice. Their heavily feathered feet, sorb the lice killer put on the roosts d a louse is not going to crawl ough a feathered paw reeking with smell of petroleum. Every attempt scratch themselves but spreads the r to other sections of the fowl. In eeding I look first to the combs, then the shape and size, and the color be brought about afterward. They tch well, grow rapidly and the cock- ls or older males can be raised in same yard, as they are easily recon- ed to one another.

* * *

The craze for buff colored fowls has ought them into demand again, and those whose yard space is limited ey find much favor, being happy in nfinement, and unable to go over a o-foot fence, and the chicks can be arded by wire netting a foot high, ice the wings are too small to carry eir heavy bodies upward. I find it mparatively easy to produce evenly lored females, with clear neck and ngs, but the males cannot yet be oduced whose saddles are not a tri- darker in buff color than the breast, d whose tails do not show at least few splashes of bronze or black in me of the main feathers. The pul- s begin to lay at 7 months, but the ns should be marketed after their cond season. They are so domesti- ted that I found my San Francisco d Los Angeles prize winning fowls ing uninterruptedly during and right ng after the shows.—Harry McIn- e.

THRIFTY PETALUMA.

If any one thinks the poultry bus- ess of Petaluma is on the wane, a sit there will convince that quite e reverse is true.

Petaluma does not depend entirely on poultry products, at the same me it's a great factor. Every day e sloops go down Petaluma river at th tide to the bay and on to San ancisco market with tons of pro- ce. This shows that some products s out from the little city.

When the writer was there a few weeks since, a mammoth dredger was at work deepening the channel to facilitate the shipping.

In a short interview with Mr. L. C. Byce, of the Petaluma Incubator Co., a number of facts were gleaned which are of such interest that we are glad to give them.

Few people outside of actual residents of Petaluma know the inside history of the rise of the poultry business of that city, now the greatest poultry section of the world. A quarter of a century ago when the people of Petaluma vicinity were absorbed in dairying and potato raising, L. C. Byce, a medical student of Toronto, Canada, whose father was largely engaged in poultry raising, came to California to spend a year or two for his health, and immediately began to develop plans for artificial incubation, to

Cockerels Barred Rocks, Black Langshans, Light Brahmas and Partridge Cochins. Over thirty of these choice birds at $2 and $3 each. Eggs, $1.50 per 14. B. B. P. YDS., CARLSBAD, CAL.

Barred Plymouth Rock Eggs for Hatching
1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15
MRS. Z. A. WOLLAM,
W. CENTRAL AVE. RIVERSIDE, CAL.

BUFF COCHINS
Solid Buff. Heavily feathered. First prizes at San Diego show, '03; San Diego fair, '03; S. F. show, '03; Los Angeles, '03 and San Diego, '04.
Harry McIntire, 27th and D Sts., San Diego, Cal.

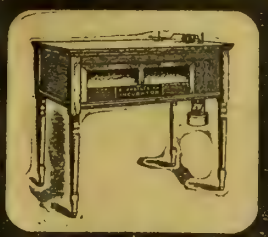
MATURED
Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

19 Ribbons at San Francisco and Los Angeles Shows. Entries 26.

EL ORO POULTRY FARM
FRESNO, CAL.
H. H. HOLLAND - Proprietor

Booking orders for eggs from yards of White and Brown Leghorns, White Buff and Barred Rocks, Blue Andalusians, Light Brahmas, Silver Spangled Hamburgs, Buff Cochin Bantams, Black Minorcas, Pekin Ducks and Bronze Turkeys.

JUBILEE INCUBATORS



The Jubilee illustrates the highest type in Incubator construction; hot-water pipe system; heavy co per boilers; perfect ventilation; new and positive system for control of moisture; entirely self-regulating—in all points the Jubilee leads. We have brooders to match the incubators—perfect and practical.
Send for Jubilee catalogue No. 30. It will explain all you want to know.
JUBILEE INCUBATOR CO., OAKLAND, CAL.

Darling's High Protein
BEEF SCRAPS
Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.
Farmers and Stockmen
All Use
Prussian Stock Food
We Carry a Full and Complete Line
GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

Albers' Black Minorcas
Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.
EGGS COCKERELS CIRCULAR
GEO. R. ALBERS
4849 Marmion Way Los Angeles, Cal.

ROUP and CHOLERA
Why do so many so called poultry medicines fail? Because they are made to sell at 100 per cent and not to cure. Palmer Poultry Powder sells on its merits. Roup or cholera is no barrier to the poultry raiser now. Before this famous remedy was tested and its value proven the hatchet was used for roup. Now Palmer's Roup Remedies are used and the fowls saved.
PALMER'S POULTRY POWDERS
Trade Mark
You may think your fowls are healthy but do not lay. You buy egg producing food to force egg production. When your fowls are healthy nature fills the egg basket. Don't be deceived by cheap nostrums.
Palmer's Cholera Compound makes and keeps your hens healthy and vigorous and doubles the egg product. To try it is to buy it, to buy it is to make money.
PALMER POULTRY POWDER CO.,
Henry Albers, Dis. Agt. 102 S. Spring St., Los Angeles, Cal.
50c and $1.00 Per Package

Winner Buffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever held west of the Missouri.

WHITE LEGHORNS
Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."
Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from various egg producing strains of large eggs.
Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect.
None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.
To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders. Selected not only for their Show qualities, but more essentially for their laying qualities of large eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize pullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and the first prize hen at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be found.
"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger eggs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Such strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.
W. W. HOWARD 3024 E. Main St. Los Angeles, Cal.

EGGS FOR HATCHING

From grand laying strains Black Minorca and White Leghorn fowls. Pens headed by prize winners, $1 and $2 for setting of 15. One Plymouth Rock pen headed by bird bred at eastern experiment station from 250-egg strain, $2 per 13 eggs Stock for sale.

J. P. McDonough Geyserville, Cal.

INDIAN RUNNER DUCKS

—AND—

WHITE PLYMOUTH ROCKS

Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.

Foster's Fowlery, R.D. 2, Los Angeles

THE GOOD FOUR

I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to

EGGS, $1.50 PER SETTING

S. W. MORGAN, SUNNYSIDE, CAL

Eggs for Hatching

—FROM—

PURE BRED WHITE LEGHORNS

$1 00 per 13—$4.00 per 100

JACOB KREGER

Route 1 - Anaheim, Cal.

BARRED PLYMOUTH ROCKS

THOMPSON'S RINGLET STRAIN

Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.

A. A. Clapp - Alhambra, Cal.

Lake Avenue Poultry Yards

Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $4.00 per 100. Strong, healthy stock, prize winning strains. Visitors welcome.

757 N. LAKE AVE., PASADENA, CAL.

SAY! Send $1.50 for 13 eggs from choice prize-winning stock o

GOLDEN BUFF LEGHORNS

and

BLUE BARRED PLYMOUTH ROCKS

A few good cockerels and hens for sale. Winners at great San Francisco Show.

LINDGREN & SONS *KINGSBURG, CAL.*

Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

James Hague, Proprietor

350 College St., Oakland, Cal.

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The 1904 Catalogue B

Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address

Must Hatch Incubator Co., PETALUMA CAL.

EGGS FOR HATCHING

From good, strong, healthy

S. C. White and Brown Leghorns

$1.00 per 15, $4.00 per 100
Satisfaction guaranteed

T. E. Mills - Lordsburg, Cal.

Knapp Strain
S. C. WHITE LEGHORNS

BEST egg variety known. Awarded **HIGHEST HONORS** at hundreds of America's leading shows. First and second **PRIZES** awarded to **COCKS** of this strain at the **GREAT PAN-AMERICAN EXPOSITION.** Bred for **HEAVY PRODUCTION** of **LARGE WHITE EGGS.** Some very choice pens for sale. Write for prices.

Eggs for settings, $2 per 15.
Incubator lots, $5 to $8 per 100.

Mountain View Poultry Yards

H. C. Chamberlain, Proprietor, Cotati, Cal.

which some attention had been given by him previous to college days. Meanwhile Brown Leghorns and Barred Rocks were imported from eastern breeders and sold in small numbers by him, to people in and around Petaluma. A few years later White Leghorns were introduced.

Mr. B., having improved in health so materially and succeeded in making such a reliable hatching machine, concluded to make Petaluma his permanent home. From this beginning has been built up an immense incubator factory.

Rear View of Petaluma Incubator Factory.

Mr. Byce took us about for a short look at his big stock of incubators, finished and in all stages of construction. A big stock, did we say? "Only 3000," Mr. Byce said and that's not many when it comes to covering the world with Petaluma incubators. Nearly half those incubators are finished entire and ready for immediate shipment.

From the sloops the lumber is landed near the rear of the factory, which is on a level with the basement. Then it is cut to proper sizes and stacked for more perfect seasoning. Thence to saws and turning lathe, where it is soon ready to put together.

On the third floor are tin shops, finish rooms and "assembling" room. This last is in charge of the final inspector, who sees that lamp, thermometer, trays, ventilators, etc., are properly placed and packed, finally, at the door are placed full instructions as to seting up and operating. In the tin and copper workshops are machines for cutting and forming the metal parts, which permit of most economical work.

Around this great institution has grown up an immense business, for which Petaluma has become so noted. Since 1879 this company has expended over $125,000 in advertising Petaluma incubators and Petaluma.

Through the instrumentality of the Petaluma Incubator Co., people from all parts of the world have been attracted to Petaluma to engage in the poultry business. Property has increased in valuation. Large tracts of land have been subdivided and sold at good prices. Conditions of trade have been completely revolutionized, so that instead of the long time credit system it is conducted strictly upon a cash basis.

Driving in a westerly direction from town the very heart of the poultry section is encountered, wherein are hundreds of poultry ranches of from 1000 to 6500 laying hens, and on which six to seven thousand chicks are raised annually to keep up the laying stock. Within this section are several places where there is a concentration of fowls—owned by a number of persons but kept upon small tracts, and, viewed from a little distance look like one vast poultry farm. In some of these closely arranged localities one can see, without turning round, an aggregation of from 65,000 to 100,000 laying hens.

The annual output of this city is 2,200,000 dozen of eggs, but that is not enough to suit the Petaluma hen and it is thought that this year's output will be five million dozen.

At two bits per dozen that's not so worse for an income for one little town.

EGGS FOR SALE

From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.

H. S. THOMPSON, 126 E. AVE. 55, LOS ANGELES

EGGS

Buff Opringtons, Harris strain, Clay Center, Nebraska, $1.50 to $2 00 per 15.
Buff Orpingtons, Riddel stock, Fresno, Cal., $1.50 to $2.00 per 15.
White Leghorns, Lytle strain, $1.00 per 15.
All strong, healthy ranch raised stock.

LOUIS S. FLETCHER, ANAHEIM. CAL.

200-EGG INCUBATOR $12.80

This perfect 200-egg Wooden Hen at $12.80 is a startling trade innovation. It will do the work of the most costly hatcher, and always keeps in order. Hatches every fertile egg. Catalogue with fourteen colored views sent free.

GEO. H. STAHL, Quincy, Ill.

SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904

There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address

C. C. SHOEMAKER, Box 718, - Freeport, Ill.

Just Received, a Carload of

WHITE

Egyptian Corn

For planting or feeding. $1.70 per 100 lbs. Special Quotations in Quantities.

GERMAIN SEED CO. 326-330 SOUTH MAIN STREET LOS ANGELES, CAL.

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Gobblers and hens fro finest pure-bred stock in t State. Eggs, 13 for $4.

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VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 No. th Broadway, Los Angele:

TUBERCULOSIS SYMPTOMS.

Editor Cultivator.—I have some pigs two months old on range with sow; two of them have a cough and do not seem to breathe regular. The sow has an occasional cough. I feed them scalded middlings and corn, and have been giving them Prussian stock food for a month, but it does them no good. Please advise through Cultivator.—Subscriber, Santa Rosa.

Your pigs show symptoms of tuberculosis, probably inherited from sow. Kill one and have competent surgeon hold a post mortem.

* * *

MANGE—BONE SPAVIN.

My horse is in fair condition, works every day. I feed kaffir corn; she is afflicted with some kind of itch. She rubs the hair off in spots, and the skin turns scabby and hard. Is the disease contagious? Can bone spavin be cured? If so, what is an effective remedy.—George Sinkewich.

By your description the disease is mange. Use the following: Sulphur, 2 oz.; oil turpentine, 2 oz.; oil tar, ½ oz.; oil linseed, 10 oz. Mix. Shake well and apply twice a day.

Treatment for Bone Spavin.—Firing and blistering is the only reliable treatment.

* * *

MANGY SOW.

Editor Cultivator: I have a brood sow that is troubled with mange. I have been feeding it condition powders for some time but have met with no success. Will you please give formula for remedy for same and oblige, Subscriber, Kern City, Cal.

Use the following and apply twice a day: Sulphur, 2 oz.; oil turpentine, 2 oz.; oil tar, ½ oz.; oil linseed, 10 oz. Mix. Shake well before using.

* * *

BREEDING DAY OVER.

Editor Cultivator: I have a fine cow, 8 or 9 years old. About 6 months ago she had a pair of twin calves born dead. They came two months before they should. I have no idea what caused the abortion, for she had not been driven, had not changed feed for a long time. I had been feeding green corn suckers and that was her principal feed when she lost her calves. She has not again been in heat, but is getting very fat and the flow of milk does not amount to 4 qts. per day and is gradually getting less. Please answer through Cultivator and oblige, D., Anaheim, Cal.

Your cow will not be likely to breed again. Best dry her off and fatten her for beef.

* * *

HAS TUBERCULOSIS.

Editor Cultivator: I have a cow that is a six-gallon milker. Last August, one year ago, she took to breathing very hard, and I gave her some of Sloan's condition powders, and she got better. This year I turned her in pasture and she went right off her milk. She still breathes hard at times and coughs some. She is thin in flesh but has a good appetite and of a morning her nose is dirty. She has just dropped her calf and it was small and weak. She does not give over a quart of milk now. The veins in her udder are large and the udder very sore.—J. E. Potts, Colton, Cal.

Your cow has tuberculosis.

CLIMATE AND CROP REPORT

Cool weather prevailed during the first of the week, with heavy frosts in many places. The latter part of the week was warmer and generally cloudy, with heavy rain in the central and northern sections and light rain in the south. The precipitation in the Coast and Bay sections and portions of Northern California was the heaviest of the season, ranging from two to nine inches for the storm of the 11th and 12th. Heavy snow fell in the mountain districts. Rivers and creeks were running bank-full, bridges and railroad track were washed out and overland traffic was blockaded by the heavy snow in the mountains.

There are no reports of damage to farming lands or crops by the heavy rain, but farming operations were suspended and in some places cannot be resumed for several days. Although the precipitation in the southern districts was comparatively light, its coming immediately after the rain of the preceding week was very beneficial and farmers have become more hopeful. Early sown grain and grass have made a good start and are growing rapidly. Plowing and seeding are in progress in all the southern districts. In the central and northern sections grain continues in excellent condition and pasturage is making good growth; green feed is plentiful in most places and cattle are doing well. The grain acreage is reported large.

Orchards and vineyards are in good condition and pruning is nearly completed in some sections. The cold weather has been beneficial to deciduous fruits in checking the too early development of bloom, and prospects are good for large crops. Citrus fruits have not been seriously damaged by frost.

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

Editor Cultivator:—Will you tell me if the sterculia diversifolia is sometimes called the tulip tree? 2. What is the botanical names of the "Flame tree." 3. I want some trees for the front lawn and the driveway. What would you recommend? An answer through the Cultivator will much oblige, Interested Reader, Hollywood.

1. We have never heard the sterculia called tulip tree, though they are much alike in habit of growth. There is a deciduous sterculia (S. platanifolia) that might be taken for it. It is a strange fact that both this sterculia and the tulip tree (Liriodendron Tulipifera) are found in the southeastern United States and China, yet nowhere else on the globe. They are in no way related. 2. Sterculia acerifolia (maple leaved) an older, though less proper name is Brachychiton acerifolia. 3. Sterculia diversifolia would be most excellent for your driveway. Please send size of your lawn—if large or small trees are needed and if for shade or ornament. Have you plenty of water for them?

* * *

FLOWERS FOR DRY SITUATIONS.

Editor Cultivator.—Will you please give an addition to your last list of drought resistant plants, in the way of bedding plants? I am getting all those you guggested, but it does not give me a sufficient variety.—E. D. R, Redlands.

Amaranthus, Balsam, Godetia, Nasturtium, Zinnia (five annuals); Anthemis tinctoria, Columbine, Cone-flower, Gaillardia, Sunflowers (five perennials). These ten, added to list above noted should give one a good assortment of flowers and the plants will need little care or water.

* * *

Editor Cultivator.—I saw a mention made in the floriculture column of the Cultivator of the Kei-apple, and I would like to know more about it. 1. Will it grow and thrive without irrigation? 2. What kind of soil does it require? 3. Where can it be bought?—J. D., Fallbrook, Cal.

1. Being native to hot, dry portion of Southern Africa, we should judge that it will do very well without water except from winter rains—those we have seen were summer watered, so cannot be positive. 2. It will, no doubt, do best in a medium or light soil, likely not so well in a heavy one. 3. We do not know of any dealer in California who can supply you with them except Mr. Payne, whose ad. appears on this page. Plants are usually obtained from Florida, where they are prime favorites.

* * *

Editor Cultivator.—Will you please give the title and number of the bulletin which treats on the changing of sex of the date palms; also, if it is a State or Federal Government publication.—E. B., Mecca, Cal.

We have only seen an extract from the bulletin mentioned. If you will write to Mr. C. B. Smith, Washington, D. C., care U. S. Department of Agriculture, office of Experiment Station, and ask him where you may get "Trop. Agr. 22 (1903) No. 11," treating of the changing of sex in plants, we believe you will find what you wish.

BARREN CHERRY TREES.

Editor California Cultivator:—I have lately become a subscriber to the Cultivator and would like a little information in regard to what fertilizer to use on Royal Ann cherry trees. I have a 16-year old orchard of R. cherries that never bore one-half crop. The soil is good and the trees grow too much into wood; trees are 12 to 15 inches one foot above the ground and 30 feet high; bloom and set very full; if one in 20 of the little cherries would stay on would make a big crop; they grow to be as big as a half grain of corn, then drop off. Now, what shall I use? What kind of fertilizer is best to use? I would be pleased to hear from you and be obliged.—A. Beermaker.

It is probable that the soil on which these trees are growing is already too rich and adding fertilizer would not benefit the matter at all. The fact that the trees are growing so vigorously indicates this and shows that growing conditions are perfect. It is a common habit for the cherry, and especially the Royal Ann, where growing conditions are favorable to run very much to wood. It has been claimed that if left until they attained sufficient age they would bear very heavily and pay for the waiting, but we in California are not planting trees for our children and are very anxious for immediate returns. The greatest of all natural laws is the continuation of the species, and this law is especially strong in the vegetable world. When conditions are especially favorable for the growth of the individual seed production may be long deferred, but so soon as conditions prevail that threaten to shorten the life of that individual it is forced into bearing at once and the continuation of the race is assured. Now, this law applies to fruit trees and often by pruning, by mutilation, or other means we can stop the growth of the tree and force it into bearing. One of these processes is root pruning. Dig well around the barren tree and cut back the roots. This will check the tree and often force it into bearing. We know of a case in which a friend had a cherry that had attained so great an age without bearing that he determined to get rid of it and started to cut it down with an ax. He made two or three deep cuts in the trunk when he was called to lunch, and during the lunch hour his wife begged him to leave the tree for its shade, as it stood near the house. He did so and was surprised the next season to get a very heavy crop of fruit from it and it has borne ever since. Mutilating a tree in any way, as by driving nails in it, allowing borers to get in, etc., will cause it to bear in accordance with the law mentioned above, but all such means are at the expense of the vitality of the tree. Probably if our correspondent will neglect his trees he will get better results than by the application of fertilizers.—John Isaac.

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General Agriculture

LARGEST BEANS IN THE WORLD.

A California correspondent of the Scientific American states, says the San Joaquin Farmer, that the largest string beans in the world may be seen growing in the gardens of Charles Richardson at Pasadena. They range from thirty to forty-three inches in length and average half an inch in width. They are not only enormously large but they make a delightful table delicacy when cut and stewed and prepared with cream and butter. The commercial gardener would find them a most profitable production, for the vines bear profusely and the beans are so large that one of them is more than a single person can comfortably manage.

These beans are of an aristocratic species and do not claim alliance with the common string bean. California botanists class them as belonging to the genus Dolichos, but owing to their great length they are more properly known as "yard beans." The plants are natives of China annd Japan and the seeds were sent to Mr. Richardson from Japan.

Early in the spring he planted them in a well spaded, well fertilized trench and put up a trellis seventeen feet in height to support the vines. The seeds sprouted quickly and the plants began to grow with a vengeance. They climbed to the top of the poles and then turned around and began to grow backward. They are now twenty-five feet in length and are still growing. The row is thirty feet long, containing fifty vines, and it has been estimated that the crop amounts to ten thousand yards of beans. The beans grow in clusters and can be easily and quickly gathered. The fragrant lavender blossoms resemble those of the sweet pea. They are peculiar in their habits, living but for a day, opening with the sun and dropping their petals when the sun goes down. The leaves are long and wide and grow in clusters of three. The vines are very clean and attractive and would be decidedly ornamental in any summer garden for either fence or trellis covering. The beans are best for eating when about twenty inches long. In flavor they excel that of the ordinary string bean."

HOW HE IMPROVES HIS FARM.

"You ask how to bring up a farm? Every farm is a study by itself," replied John Joy. "The best I can do is to tell you how I improved my own farm, from where it barely paid the rent until now it gives me $800 per month gross income, of which about $200 is the clear profit."

"Few men of your age in this section have done so well," said I, "and the farm was nothing extra by nature."

"I was a believer in manure," he continued. "I knew that with plenty of it anybody could make money on an eastern farm. The first five years I paid rent first, bought food next, and put the rest of the income into manure; paid a good price and hauled it three miles over a bad, hilly road. I often wished I had located nearer town. Before the end of five years I found that I could keep more stock, and quit buying manure.

I have bought none since, except a ton or two of fertilizer a year for potatoes. I have kept adding cows, and my wife became tired of making butter, so I started my retail milk route. I had to buy grain to keep up the milk flow, and the land grew richer. I began to study tillage, got better implements, plowed better and oftener, and fined the soil the whole season.

I paid more attention to rotation of crops, and practiced a partial soiling system, which I thought was about the limit of high farming; but then came the silo system."

"That seemed to make a big difference in your farming. Yours was almost the first in this country, I believe."

"Yes," replied Joy. "I should have had one sooner if mine had been easy soil to cultivate. The silo has done a great deal to bring up my farm. I could keep twice as many cattle as before, but I haven't done it, because I have been taking more of the land for garden crops and trees. I have made some of my fields as rich and mellow as a garden, and find it pays to raise garden crops and fruit.

"Now, this is the standard way to bring up land," he continued; "that is buy or make more manure. But if the milk or butter market were poor, my experience has suggested another way that you could follow, one that is more feasible in some instances. Manure, live stock and silo cost heavily, and the process for a man without much capital is slow and difficult.

"With a large farm and little or no capital, a farmer may set that surplus land to improving himself. Let him wisely save and use what manure he has. There is a golden mean between stuffing and starving land. Let him put the manure where it will do the most good, using the best of the land, grow self-feeding crops like clover, cow peas and soy beans, and the like. By 'self-feeding' crops, I mean that they get a good deal of their growth from the materials in the air and deep soil, where most crops will get nothing. Where land is easy to work, these crops will not cost much to grow. They can be pastured off partly, and the rest of the growth plowed under.

"Red clover, for instance, I find we can cut or feed the first growth, and get a crop that will pay for the trouble of raising it and leave the second growth to be plowed under, with the effect on the soil's quality, a heavy dressing or fertilizer after plowing under the soil, or carry a crop of potatoes, with the addition of a little fertilizer in the drill. Then follow the potatoes with fodder, rye, or wheat, and sow clover again among the rye early the following spring and so repeat the process. Plow under the second growth of clover again, and the land will be found wonderfully improved, at no great expense except for labor.

"Another good plan the second fall would be to sow some turnips with the rye. This would give five crops in two years. A crop of clover cut, and the second growth turned under, potatoes, turnips, rye, and all with little manure. I should use chemical fertilizer, say 200 pounds per acre, of muriate of potash and acid phosphate mixed, to give the clover a good start.

"But I would never mortgage my farm to buy heavy dressings or fertilizer, as some recommend. I would rather take longer and depend more on the clover. I would get a double sulky plow and turn the soil over and over as often as I could, working it fine and keeping it stirred. Almost any soil has plenty of fertility if it is worked fine enough to enable the crops to get at it.

"Live stock, fine tillage, and air feeding plants will bring up the farm in time. A mortgage might save years, but it would be likely to work as many out of the farmer's life.—Correspondent American Agriculturist.

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Most talked of grass on earth. Editors and College Professors and Agricultural Lecturers praise it without stint; yields 14 tons of rich hay and lots of pasture besides, per acre.

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Salzer's Teosinte produces 113 rich, juicy, sweet, leafy stocks from one kernel of seed, 14 feet high in 90 days; yielding fully 80 tons of green fodder per acre, doing well everywhere, East, West, South or North.

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QUIT WORRYING.

No matter how the clouds may drift
While scurrying
Across the sky. The winds will shift
And blue come laughing through the rift—
Quit worrying.

No matter what the crowd may say
While hurrying
Along the way. A brighter day
Is lingering along the way—
Quit worrying.

No matter how the winds may blow
While flurrying
And scurrying. We ought to know
That brighter things are here below,
They're brighter still where we should go—
Quit worrying.
—New Orleans Times-Democrat.

MY OWN.

I knew a joy like a singing bird
That every pulse of my being stirred;
But no cage had bars that could stay her flight,
No way was too dark for her pinions bright;
I have missed the joy from my pathway lone,—
Across the bar I shall find my own.

I had a hope like stars agleam
That smile in the heart of a lowly stream;
But the waters were lashed to a curtain of foam
That shut the star from its earthly home;
Away in the light of the Great White Throne
With its circle of stars I shall find my own.

There are snow-white sails that wafted prayer,
Lilies too white for our tainted air;
Songs with meaning too large for speech;
Lips that sadly our hearts beseech;
Where all earth's jangles have clearer grown,
In the light of the dawn I shall reach my own.
—Julia May Williamson.

HER CHAPTER OF PROPOSALS.

Miriam came into the library and sat down opposite Graham. There was a pucker of anxiety on her forehead.

"Barry," she said, "would you mind being engaged to me?"

Graham took his feet off the window sill and sat up.

"Engaged?" he repeated, dubiously.

Miriam nodded.

"It's only for a couple of days," she hastened to reassure him. "Mr. Forsythe is coming to propose and I'm at my wits' end. I haven't a single excuse for refusing him. He's good, and wealthy, and nice looking. Mother won't hear an objection, even his age. So, you see, the only way is to let him understand, ever so delicately, that I'm not free to listen to him. Nobody will know, for he isn't the sort to repeat confidences."

Graham lay back in his chair and surveyed her coolly.

"If you've no objection to him, why don't you marry him?" he inquired.

"I thought I made it clear that I did not want to," she explained, with a note of injury in her voice. "I'm sure, of you don't want to help me out, Bart, you needn't. But we've been such chums I thought you'd as lief as not. I'd do as much for you."

Graham swallowed hard, but she did not notice.

"Why don't you tell him the truth?" he said at last. "He's man enough to stop his attentions if he knows they're unwelcome.

"That's just it," she rejoined, hopelessly. "Mother has tacitly given him to understand that I do care for him, for all of my seeming indifference. In fact, they've done nearly all the courting themselves."

Graham's lips curled.

"Well!" he said shortly, "I should think you could disabuse him of the idea easily enough."

Miriam's brown eyes widened.

"You must think it is prime fun, Bart Graham, to boldly tell a good friend right to his face that you don't care for him, especially when he's such a dear old fellow!" she said, with a little quiver in her voice.

Graham stared. What a refreshing phase of womanhood! Then he smiled grimly.

"So, I suppose, it was your idea to let Forsythe down easily by giving him to understand that, although I held your hand, your heart responded to him, eh? You'll pardon me, Miriam, but you remind me forcibly of the Irishman who was too tender hearted to dock his dog's ears at one fell stroke so cut off a half inch at a time."

Miriam winced, reddening. The truth sounds so different, stripped of picturesque phrases. Graham relit his cigar.

"You want me to go in with you, virtually lying to Forsythe," he went on gravely. "At the risk of appearing ungallant, I am afraid I must decline your flattering offer. I don't know much about such things, but it seems to me, if I didn't care to go into partnership with a man I could make him understand my refusal had nothing to do with my personal regard for him. If—if I didn't want to marry you, for instance, Miriam, you wouldn't take it as unfriendliness on my part, would you?"

Her downcast eyes missed the fact that he was watching her narrowly. She got up.

"I don't know if I've the nerve to do it," she said, rather tremulously, and letting his question pass unheeded. "You've no idea how hard it is, Bart. I've always liked him, if not in that other way, so very much, till—till"

She hesitated and looked at him appealingly; but there was no sign if relenting in his averted face. She sighed softly. A moment later he heard the swish of her light skirt along the hall. He laid down his cigar.

"In one respect," he groaned, "women are like Providence—their ways are past finding out!"

On the morning of the third day, from the vantage point of his own window, he saw the suitor depart. There was a rosebud in the lapel of his faultless coat. As he got into the autobus Graham caught a glimpse of his face. His own promptly fell. As if that were not sufficient, on going out directly after, he met Miriam's mother in the hall. The pretty widow's cheeks were flushed like a girl's, and, it seemed to him, there was a guilty look in her eyes. She gave him a smile that relaxed not a tone of its sweetness at the savage tone of his "Good morning." This last confirmed his worst forbodings; he decided that, between the two, they had succeeded in coercing Miriam to their wishes.

He went back to the house and sent a peremptory note to the young lady. He wished to see her once more, and at her earliest convenience. He thought their former close friendship gave him the privilege.

He was hardly prepared for the flushed cheeks and defiant eyes that greeted him. Nevertheless, he resolved to stick manfully to his role of protector.

"If it came to this, Miriam!" he burst forth, "I think you might have trusted me to help you out, for all I refused the other day! I would have done anything but what you asked—even to shooting him," savagely.

Miriam's nervous color deepened.

"—I don't see how any one could have helped it, except mother," she stammered.

"I could, and I intend to yet," he retorted grimly. He came a step nearer. "I tell you, child, you shall not be forced into this marriage against your will. I have some rights as—as your nearest friend, and I shall remonstrate with your mother. That failing, I shall go to Forsythe himself, and tell him the truth, since you dare not. He is an honorable man, and he will release you."

Miriam backed away from him and hid her face in her hands.

"Oh, Bart!" she cried between hysterical sobs and laughter. "What in the world are you talking about?"

"You shall not marry Forsythe against your will," he insisted. Then, to his astonishment, Miriam uncovered her face and burst into a ringing laugh of sheer relief.

"It was mother, not me, to whom he proposed," she said. "It was just her silly blunder, the blessed goose! She never told me they were engaged years ago. And I acted such a guy before you. I fretted myself sick about it. But," meeting his eyes with unwonted and bewildering shyness, "if he had asked me, Bart, I should have told him the truth. I've resolved to be as honest as the day hereafter."

Graham's head swam in the great light breaking on him. Impulsively he strode forward and took both her hands.

"Miriam, be honest with me, then, as I am with you. I've loved you all the while I was pretending friendship, and when I thought another man was winning you I was beside myself with misery. Tell me, little chum, could you love me in that other way?"

The flushed face was instantly buried against his sleeve. Graham as promptly unearthed it, and forced its shy eyes to meet his again. What he saw there only he knows; but it proved to him beyond a doubt that Miriam's impersonal friendship was as preposterous a fraud as his own.—Minneapolis Times.

BABY'S CARE AND COMFORT.

An experienced housewife who has raised several children is a better authority on the care and bringing up of the baby than text book or any trained nurse. How to look after the little personage, keep him or her free from colds, and therefore healthy and growing, are items of interest to every young mother. Writing on this subject a trained mother in Farmer's Wife makes these timely suggestions:

When you are ready to give the baby his bath, have the tub set on a box or something that will make it a convenient height for the mother as she sits in her chair. A folding screen is a great convenience. It is easily adjusted around a warm corner, and if the door is opened the baby is out of the draft. This screen may be made of a wooden clothes horse by fitting the panels with curtains of muslin, dimity, chintz or cretonne. These may be removed when they need washing. The lower rungs of the screen are convenient for hanging the towel and clothing on, placing them within reach when needed.

Pour the water, which should be heated to the proper temperature, in the tub. Dissolve a tablespoonful of powdered borax in two gallons, which makes it soft and cleansing. A bath thermometer is almost indispensable, as the sense of touch cannot be depended upon. Set the baby in the tub and wash the whole body quickly, using a

LAMP-FITS.

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Your grocer tells you.
How does he know?
He don't.
Do you then?
That's about how lamps are fitted with chimneys by people who don't use my Index; and they complain of bad chimneys! Lamp-Fits indeed! Do you want the Index? Free.

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soft silk sponge, which cleanses without irritation. Very little soap is needed, but it should be of the best quality. When he is washed, spread a bath towel in your lap, lift him out upon it, and wipe him dry with a piece of soft linen. Any places that seem in danger of chafing should be dusted with a powder made by thoroughly mixing ten parts talcum powder and one part boracic acid. Replace the clothing quickly, and he will be ready for a quiet refreshing sleep.

Babies should be put to bed early. Undress him and rub him gently all over the body, then put on a long loose night dress of outing flannel or some other suitable material. If he is in a room where there is a light, see that it does not shine in his eyes. The room should be kept the same temperature as nearly as possible, all the time."

CAUSE OF COLDS.

The invariable cause of colds comes from within, not without. No one takes cold when in a vigorous state of health, with pure blood coursing through the body, and there is no good reason why any one in ordinary health should have a cold. It may come from insufficient exercise, breathing of foul air, want of wholesome food, excess of food, lack of bathing, etc., but always from some violation of the plain laws of health.

There can be no more prolific cause of colds than highly seasoned foods, as well as frequent eating. These give no time for the digestive organs to rest, and incite an increased flow of the digestive secretions. Thus larger quantities of nourishment are absorbed than can be properly utilized, and the result is an obstruction, commonly called a "cold," which is simply an effort of the system to expel the useless material. Properly speaking, it is self-poisoning, due to an incapability of the organism to regulate and compensate for the disturbance.

A deficient supply of pure air to the lungs is not only a strong predisposing cause of colds, but a prolific source of much graver conditions. Pure air and exercise are necessary to prepare the system for the assimilation of nutriment, for without them there can be no vigorous health. The oxygen of the air we breathe regulates the appetite as well as the nutriment that is built up in the system.

The safest and best way to avoid colds is to sleep in a room with the windows wide open, and to remain out of doors every day, no matter what may be the weather, for at least two hours, preferably with some kind of exercise, if not more than walking. One should not sit down to rest while the feet are wet or the clothing damp. A person may go with the clothing wet through to the skin all day, if he but keeps moving. Exercise keeps up the circulation and prevents taking cold.

The physiologic care of colds is the prevention of their occurrence. The person who does not carry around an oversupply of alimentation in his system, and furthermore secures a purified circulation by strict sanitary cleanliness, thus placing himself in a positive condition, is immune to colds. A starving man cannot take cold.

A careful diet would exclude the use of all narcotics and all food that is not thoroughly appropriated. An overfed person is worse off than one who is underfed, because the overfed body is taxed to dispose of what cannot be appropriated, and when not properly disposed of, remains only to be an element of danger.—Science and Health.

THE JOY OF LIFE.

There are untold sources of good at the command of every living soul. We have only to put ourselves in line to avail their possibilities. The sun-kissed earth is full of the glory of living. We need but to drink in its beauties to be keenly sensible of a heaven on earth. The banquet table is laden with the choicest viands. We need but to partake of them; they are free to all. Listen and you will hear the summons to the feast. It is ringing, ringing around the world. It is the call to every human soul to partake without money and without price. Open your eyes and look about you and you shall see the good and the beautiful ever emanating in choicest vibrations direct from the infinite hand. Open your minds and into them shall flow all that is desirable, all that is best in the economy of nature; and nature is God. Seek only the sunshine and you'll be sure to find it. Having found it, bask in it.

Drummond said "the best thing in the world is love."

Why?

Because it opens the heart to sunshine. Sunshine is life. Life is eternal, sunshine everlasting. Said Rabbi Rosenan, "Sunshine is beauty." Surely there is beauty in sunshine. All nature teaches us that. The firmament with its constellations, the earth with its luxuriance; the ocean with its never ceasing billows, which break in music and in grandeur on the shore; the brooks with their tinkling and their babbling; the mountains with their magnificence, and the verdant valleys with their foliage and the fields with their burden of bending grain; the birds with their songs, and the insects with their humming, all, all teach you the lesson of the sweetness of life.

"The best thing in the world is love."

There is sunshine in love. The father with his deep-seated affection for his daughter, the mother with her eternal devotion to her boy; the brother with his unselfishness toward his sister, and the sister with her admiration for her brother ever impresses you with the truth that there is indeed sweetness in life.

"There is sunshine in opportunity," said Beecher. "The prize of success is within everybody's reach. Do not the law, with its protection, and religion, with its direction; education, with its knowledge, and association, with its discipline; industry, with its achievement, and rectitude, with its commendation; hope, with its encouragement, and ambition, with its daring, ever make you realize that life is grand?" The trouble is we don't appreciate our opportunities, we let them glide unnoticed through our fingers and then lament the fact that they did not come to us. They are always coming to others, but to us never. We missed them, that was all. The sky may be dark, but if we look we shall see the silver lining to the clouds. And as we look the longer the silver will grow brighter, bigger, until at last the darkness will disappear and the sunlight of beauty burst upon our vision as the sunshine of morning breaks over the mountain tops. Let us look for the sunshine, making life a paradise of beauty so that the poet may not be justified in singing

Some murmur when their sky is clear
And wholly bright to view
If one small speck of dark appear
In their great heaven of blue.
And some with thankful love are filled
If but one streak of light,
One ray of God's good mercy, gild
The darkness of their night.

In palaces are hearts that ask,
In discontent and pride,
Why life is such a dreary task
And all goods things denied.
And hearts in poorest huts admire
How love has in their aid
(Love that not ever seems to tire)
Such rich provision made.

PLEASANT CORNERS.

"Why, auntie," we exclaimed, as we found the dear old lady out of doors, "you are putting some of your choicest rose-bushes away out here in the back yard?"

"Yes; and I'm going to put geraniums and pinks and other things that will bloom all summer out here, too, child," and a more tender look dimmed the twinkles in the kindly eyes, while she nodded toward an upper window in the dingy wall of a tenement-house opposite.

"I know they'll be sort of out of sight from our house, but there's a woman sits sewing at that back window day after day, week in and week out, and I'm fixing this corner for her. No, I don't know her, only she's always busy and tired-looking, and maybe the flowers will put a bit of brightness into her life."

Who can tell what memories, what hopes, what lessons, the beauty of the blossoms and their fragrance bore to that poor little upper room through the long summer days? And how many ways there are of making pleasant corners to gladden tired eyes if only we were not too selfishly busy to notice the eyes or plan the corners!—American Mother.

RECIPES

Eat Little, but Have That Little Good

LEMONS.

The value of lemons in the culinary department cannot be overestimated. In addition to their piquant flavor, they possess medicinal virtues to a marked degree. The citric acid which they contain, however, should never be drank undiluted, as it tends to injure the lining of the stomach, but when weakened with water no ill effects need be feared. The following recipes are from "Culinary Art," a valuable little booklet issued by the ladies of Pasadena, Cal.:

* * *

Lemon Sponge Cake.—Three eggs, 1 cup sugar; beat yolks and sugar; add 3 tablespoons water, 1 teaspoon lemon extract, 1 teaspoon baking powder in 1 cup flour. Lastly add beated whites of eggs.

* * *

Lemon Sponge.—One-half box gelatine, 2 cups sugar, 4 eggs, 1 pint boiling water, 3 lemons; cover gelatine with one half cup cold water and cook for one-half hour. Then pour on it the boiling water, add the sugar and stir until dissolved. Add the lemon juice and strain into a basin. Set in a pan of cracked ice to cool until it thickens, then add the well beaten whites of eggs and turn into molds to harden. Serve with a sauce made with 1 quart milk, yolks 5 eggs, 4 tablespoons sugar, 1 teaspoon vanilla.

* * *

Lemon Sauce.—Beat together two tablespoons butter, 1 cup sugar, and 1 teaspoon flour; add one-half cup boiling water; cook until clear, flavor to taste with juice and grated rind of 1 lemon.

* * *

Lemon Pie.—One and one-half cups granulated sugar, 3 eggs, 3 tablespoons cornstarch, 2 cups (scant) boiling water, 1 lemon; beat sugar, eggs and lemon together. Stir corn starch in cold water, put in and boil; beat whites of eggs to stiff froth, and add 2½ tablespoons pulverized sugar. Bake the crust first, then put in the custard, frost and bake a few minutes.

To remove iron rust from linen, moisten with lemon juice, sprinkle with salt and lay in sun. Repeat if necessary.

If color is taken out of carpets or wearing apparel by an acid of any kind, a few drops of ammonia on the spot will restore the color. If the spot has been made by an alkali, lemon juice will restore the color. The application must be made before the goods have been wet.

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SOUTHERN PACIFIC

A two-year old orange tree grown by Mill & Masters

A BEARING ORCHARD AT TWO YEARS.

Oranges will hardly reach full bearing condition at two years, and we do not suppose any nurseryman would claim it for his trees. But at the same time, the engraving given on this page of a two-year-old orange tree, shows that sufficient size may be secured to grow something of a crop. This engraving is from a photo taken by the Cultivator photographer a few weeks ago and the tree is only one of thousands in the orchard, nearly every one is thrifty as this one. Less than two years ago they were planted and yet they look four.

How was it done?

That's dead easy—like getting rich, all you want is planty of money.

Growing a fine orchard is helped wonderfully by a fine large nursery tree. Helped? Yes, it is essential. Though, of course, careful planting, irrigating and culture must follow.

The young orchard tree shown on this page was a strong growing nursery tree. It was grown by a nurseryman who thoroughly understands growing nursery trees.

This particular tree was from the nursery of James Mills and was grown on Arlington Heights near Riverside.

He has more equally as good.

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Los Angeles Markets.

Los Angeles, Feb. 18, 1904.

The local markets have shown much activity during the past week. Nearly everything in the produce line has advanced, owing to the slow receipts during the Chinese New Year. The recent rains will have no immediate effect on the prices now prevailing. It is rumored by local dealers that Japan's agents are commencing to buy provisions. If this is the case, the growers will have no trouble in disposing of their products at a good figure.

The following are the prices quoted by wholesale dealers:

Butter.

All grades remain firm at last week's prices.

B. of T. Creamery, 2lb roll		70
So. Cal. dairy do	60	62½
Cold Storage	50	55
Cooking, lb.,	21	23

Cheese.

Best grades are in fair demand with 1c advance.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	17	
Swiss	19	
Imported do	28	

Eggs.

Fresh ranch are holding their own. Dealers are not crowded. The largest supply now comes from local producers.

Fresh ranch	23	24
Store, case count	22	23

Poultry.

Young chickens and ducks are very scarce, being firm at the prices heretofore quoted. Hens plentiful.

Spring chickens, per lb	17	20
Hens, No. 1 per lb.	14	14½
Ducks, per lb	14	15
Turkeys, per lb	20	22
Turkeys, cold storage	22	23

Live Stock.

Beef cattle are moving freely. Hogs and beeves are selling a shade higher than previously quoted. A still further rise is in evidence.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Heifers, cwt	3 00	3 75
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Good stock are firm at prices quoted.

River, per cwt		1 50
Oregon, do		1 70
Local, do		1 50
Local White		2 25
Local Sweets, white		3 00

Vegetables; Mixed.

A great shortage on all fancy goods is feared by local dealers for the next few weeks. Cabbage and beets are very scarce, being quoted 25 cents over last week's prices. Tomatoes were heavily damaged by the late frosts. There are practically none but storage goods on the market.

Onions, yellow, per cwt.	2 55
Beets, per 100 lbs	1 25
Cabbage, per cwt	2 00
Green Peas	06½
Lettuce, per sack	40
Tomatoes, 25 lb crate	2 00
Celery, per doz	50
Hubbard squash, per ton	20 00
Carrots, per sack	1 00
Chiles, string	75
Cauliflower, doz	75

CITRUS FRUITS; FRESH

Little change has been made in the fruit lines of late. Navel oranges are quoted as follows:

Fancy, 126s, per box	2 00
Do, 150s	1 50
Do, 176s,	1 25
Do, 200s,	1 00
Standards	50
Lemons, fancy, per box	1 50
Standard, do	75
Grape Fruit	1 25
Limes, per 100	90 1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower	1 75
Four ½ tier, do	1 50
Pears, Winter Nellis 40lb bx	2 00
Northern apples, 40 lbs.	1 00 1 50
Strawberries, bx, fancy.	07 12
Grapes, per crate	3 00 4 00
Guavas	04 05

Fruits; Dried.

Apples	05½ 06
Apricots	08 09
Peaches	07½ 08
Raisins, per box	3 00
Raisins, loose	07 08½
Prunes	03 06
Pears	10

Beans, Dried.

Knowledge of the condition of the bean stock of the State, the unusual shortage in crops and storage for the past year, taken with an increased demand at this time centers the interest of produce dealers on that commodity. The feeling now prevails that a further advance will take place soon. Quotations are as follows:

Pink, per cwt	3 40 3 60
Lady Washington,	3 25 3 40
Limas	3 50 4 00
Small White	3 40 3 60

Nuts.

Almonds, paper shell	14
Almonds, soft shell	13 13½
Walnuts, soft shell	14 14½
Walnuts, hard shell	13½ 14
Peanuts, eastern	06 07
Peanuts, California	05 05½

Hay and Grain.

The rain relieves the feeling of anxiety of local dealers relative to the outlook for hay. It is entirely too soon to predict the outcome so far as the farmers' position is concerned regarding the disposal of their hay on hand, but dealers assert that a decline in price may be looked for soon.

Alfalfa	16 00
Tame Oat	16 00
Barley hay	15 00
Wheat Hay	15 00
Wheat	1 35 1 45
Barley	1 10 1 15
Oats	1 25 1 35
Corn	1 20 1 25

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30
Bran	1 30
Feed Corn Meal	1 50
Middlings	1 45
Cracked Corn	1 45
Oil Cake Meal	1 85
Chicken Wheat	1 65
Cocoanut Meal	1 50

San Francisco Markets.

Dairy.

San Francisco, Feb. 18, 1904.

Butter buyers operated with considerable caution this week and with free supplies offering and heavy holders inclined to urge business by accepting shaded rates, the market assumed an unsettled tone and conditions generally favored the buying interests.

BUTTER—Per lb:

Creamery, extras	29
Creamery, good to fancy	26 @28
Dairy, extras	24 @25
Dairy, choice	21 @23
Store	14 @16
California storage	21 @24
Eastern Creamery	Nominal

Eggs and Poultry.

Offerings of Eggs were heavier and the market was easier, with values for Ranch a point lower. The top quotation was the ruling rate for fancy, but 26c was still exacted for a few lots of large selected whites.

EGGS—Per doz:

Ranch, selected large	25
Ranch, good to choice	24
Store	23 @24
California storage	Nominal
Eastern	Nominal

POULTRY—Old Roosters, per doz., $5.50@6; young Roosters, $6.50@8; Fryers, $6@6.50; Broilers, large, $5@5.50; small, $4.50@5; Hens, small, $5.50@6.50; large, $6.50@7.50; Ducks, per doz., old, $5.50@6.50; young, $6.50@7.50; Live Turkeys, per lb., 15@17c; Dressed Turkeys, per lb., 18@22c; Geese, per pair, $2@2.25; Goslings, $2@2.25; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.25@2.50.

Fruits and Vegetables.

Routine transactions in Oranges constituted the principal movement this week, and in the absence of new features, quotations throughout the list remain unchanged.

DECIDUOUS FRUITS—Apples, per box, common to choice, 50c@$1; fancy, $1.25@1.50;

extra, $1.75@2.

Pears—Per box, Winter Nellis, $2@2.50.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.25@2.25; choice, 75c@$1.50; standard, 50c@$1, according to size; Seedlings, 50@90c; Lemons, $1@2.50; extra, $2.75; Grape Fruit, $1.25@2.50; Tangerines, 75c@$1.25; Limes, $6@6.50.

A continued firmness exists in the market for Potatoes, although no important business is reported, current trading being restricted almost wholly within jobbing confines.

VEGETABLES—Asparagus, per lb., 50c; Tomatoes, per box or crate, southern, $1@1.50; Rhubard, per lb., 9@10c; Green Peppers, per lb., 16@17½c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 15@17½c; Wax, ——; Green Peas, per lb., 4@6c; Egg Plant, per lb., 20c; Summer Squash, per box, $1.25@1.50; Cucumbers, hothouse, per doz., 50c@$1.50; Mushrooms, per lb., 15@25c; Garlic, per lb., 5@7c.

POTATOES—Per ctl.: River Burbanks, 95c@$1.10; Early Rose, 95c@$1.10; River Reds, $1@$1.10; Garnet Chile, 90c@$1.05; Salinas and Lompoc Burbanks, $1.40@1.65; Oregon Burbanks, $1.10@1.30; Tomales, 95c@1.05; Sweet Potatoes, $2@2.15.

ONIONS—Per ctl.: Oregon, $2.15@2.25.

Dried Fruits, Nuts, Etc.

A moderate jobbing interest is displayed in the leading descriptions of Dried Fruits and with current offerings light, the prevailing prices are well sustained. Pears are closely cleaned up, as are choice and standard Peaches. There are still plenty of Prunes and Raisins to be had.

DRIED FRUITS—Prices for carload lots f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 4@6c; Sun Dried, 3½c @4½c.

Apricots—Royal, fancy, 9¼@10c; choice, 8½@8¾c; Moorparks, choice, 10@12c.

Peaches—Choice, 5@6c; fancy, 6¼@7c; peeled, in boxes, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9½@10c.

Plums—Pitted, 6@9c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2½@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Red, 4@5c.

Figs—White, 4@5c; Black, 4@4½c.

NUTS—Per lb.: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Pecans, 11@13c; Pinenuts, nominal; Peanuts, Eastern, 6@6½; do, California, nominal; Brazil, 11@12c; Filberts, 10@11c; California Walnuts, soft shells, No. 1, 13@14; do, No. 2, 11@12c; hard shells, No. 1, 12@13c; do, No. 2, 10@11c; Hickory, 8@10c Chestnuts, Italian, 9@10c; Coacoanuts, $4.50 $5.00 per hundred.

HONEY—New Comb, per lb., White, 10@12c; Amber, 8@10c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 26@28c.

Hops.

The price for the new crop is 27@30c per lb, according to quality.

Beans.

Trading in beans generally has been limited during the week. Prices unchanged.

BEANS—Prices per ctl: Large Whites, $2.45@2.60; small do, $2.90@3.10; Pea, $3@3.25; Dried Peas nominal.

Live Stock.

Firmness exists in the markets for all kinds of Live Stock and supplies of desirable offerings keep closely cleaned up at the maximum quotations. Hogs are finding an active call and fancy hard grain fed stock, of average weight, readily commands the advanced rate. Cattle are strong, with A1 steers sharply competed for.

CATTLE—No. 1 Native Steers, 8½@9c; second quality, 8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6¼@6¾c; second quality, 5½@6c; thin Cows and Heifers, 3½@5c;

CALVES.—Light, per lb., 4¾@5½c, gross weight; heavy, 4¼@4½c, gross weight.

SHEEP—Per lb: Fat Wethers, No. 1, 4½@5c per lb., gross weight; Ewes, No. 1, 4@4½ gross weight

HOGS—Per lb. Hard grain fed, weighing alive 130 lbs and over, 5½; market tending upward.

LAMBS—Spring Lambs, $2.50@3 per head or 4¾@5¼c per lb., live weight.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $15@18; Wheat and Oat, $15@18; Oat, $15@17; Barley, nominal; Clover, $13@14.50; Alfalfa, $11.50@13.50; Stock, $12@13.

STRAW—Good to choice, per bale, 60@75c.

OIL CAKE MEAL—In lots of 20 tons, $29 per ton; 10 tons, $30; 5 tons, $30.50; less quantiti, $31. Prices are mill rates and are subject to change without notice.

OILCAKE MEAL—In lots of 20 tons, $29

CRACKED CORN—Choice quality, per ton, $29@30.

FEED CORN MEAL—Choice grades per ton $28.50@29.50.

GROUND BARLEY—Per ton, $24.

COCOANUT CAKE—In lots of 10 tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.90@4.40.

WHEAT—No. 1 Shipping, per ctl., $1.36¼ choice, $1.38¾; White Milling, good to choice, $1.38¾@1.50.

BARLEY—Choice, No. 1 Feed, $1.08¾@1.12½; off grades, $1.06½@1.07½; Brewing No. 1, $1.15@1.41¼; Chevalier, nominal at $1.20@1.40.

CORN—Good to choice, per ctl., California new, large Yellow, $1.35@1.40; small do., nominal; White, $1.35@@1.40; Eastern, $1.27½@$1.32½.

OATS—Good to choice White, $1.27½@1.40; Red $1.27@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

WOOL.

There is no material change in wool.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, Feb. 17.—Wheat at the opening was about steady on the comparatively firm tone of cables, foreign markets showing no response to the decline here yesterday. Initial sales of May were a shade lower to a shade higher, at 96½@96⅝c, while July was a shade lower to a shade higher at 87¼@87½c. Selling by the principal long, followed by profit-taking by smaller holders, carried May down to 96c. July sold off to 86⅝c. Toward the noon hour the traders were seized by an acute attack of war fever. A report was circulated that an uprising had started in the Balkans. From the moment this announcement was made until the close of the session, there was an urgent demand for both May and July wheat. There was a scramble among shorts to cover, and the leading bull houses bought freely. The trade was of such large volume that individual transactions were allowed to pass almost unnoticed. The market turned suddenly strong, and sharp advances were made in all deliveries.

Cash quotations were as follows: Flour was firm; No. 3 spring wheat, 85@96; No. 2 red, 95@1.00; No. 2 corn, 51½; No. 2 yellow, 52½; No. 2 oats, 41@41½; No. 3 white, 41½@44½; No. 2 rye, 68; good feeding barley, 40@41; fair to choice malting, 48@58.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	32,000	45,100
Wheat, bushels	68,500	23,100
Corn, "	463,400	115,700
Oats, "	545,700	53,400
Rye, "	10,400	7,000
Barley, "	136,600	10,400

DAIRY MARKET.

On the Produce Exchange today the butter market was firm; creamery, 15@25½; dairy, 13½@22; eggs, easier, 27@28; cheese, firm, 10@10⅜.

Dried Fruits, Nuts, Etc.

NEW YORK, Feb. 17.—The market for evaporated apples continues quiet, with the tone rather in buyers' favor; common, 4@6c; prime, 5¼@5¼c; choice, 5½@6c; fancy, 6½@7c: Prunes are firmly held at from 3½@6½c for all grades. Peaches are in fair demand; choice, 7¼@7¾c; extra choice, 7¾@8¼c; fancy, 9@10c. Apricots are in good demand, and with supplies moderate the tone is firm; choice, 9¾@10c; extra choice, 10¼@10¾c; fancy, 12@15c.

CITRUS MARKETS
THE ORANGE MARKET.

The market has been somewhat varied this week as to sales, owing to the extreme weather conditions. For instance, on Tuesday 53 cars of California oranges were sold, of which the Agency sold 45. On Wednesday, says a dispatch to the Los Angeles Times, there was no auction sales of California oranges, because of the cold weather. There was no market from store, shipments being impossible. Railroads are blocked with snow, and the extreme cold prevents deliveries, both here and in the interior. Yesterday 31.114 boxes of Sicily lemons were sold. Prices were: 360s, 1.80@1.30; 300s, 2.65@1.30. The cargo was taken almost entirely by local interests. A few Palermo oranges were offered. Prices were: $1.35@1.20.

AUCTIONS.

BOSTON, February 12,1904.

S. B. Redlands, Swan Navels, $2.05.
A. C. G. Glendora, Stag Navels, $1.75; Thompson's Improved, $2.10.
O. K. Upland, Coyote Navels, $1.70.
Riverside Fruit Exchange, Golden Rule Navels, $1.65.
Riverside Fruit Exchange, Uncle Sam Navels, $1.35.
Covina Fruit Exchange, XX Navels, $1.40.
C. C. U. Redlands, Rose Navels, $2.10.
C. C. U. Redlands, Rose Navels, $2.20.
C. C. U. Redlands, Blossom Navels, $1.10.
S. S. Orange County, S. S. Navels, $1.20.
S. B. Fruit Exchange, Silver Buckle Navels, $1.75; Lochinbar, $1.70; Belt, $1.55.

PHILADELPHIA, February 12, 1904.

Covina Fruit Exchange, Blue C Navels, $1.90; Red C, $1.85.
C. C. U. Riverside, Our Favorite, $1.80.
Riverside Fruit Exchange, Uncle Sam Navels, $1.80.
C. C. U. Colton, Marguerite Navels, $1.70.
Riverside Fruit Exchange, Golden Rule Navels, $1.80.
A. C. G. Fruit Exchange, Pointer Navels, $1.80.

PITTSBURG, February 12, 1904.

S. T. Fruit Exchange, Fame Navels, $1.85; Trail, $1.55; Canon, $1.30.
A. C. G. Charter Oak, Pointer Navels, $1.35.
Riverside Fruit Exchange, Red Mountain Navels, $1.40.

CINCINNATI, February 12, 1904.

S. A. Fruit Exchange, Victor Navels, $1.55.
Arlington Heights Fruit Exchange, Palm Tree Navels, $1.45.
S. T. Fruit Exchange, Our Farm Navels, $1.70.

PHILADELPHIA, February 15, 1904.

Riverside Fruit Exchange, Victoria Navels, $1.85; Improved, $1.90.
Covina Fruit Exchange, V V Navels, $1.75.
A. C. G. Fruit Exchange, Stax Navels, $1.75.
O. K. Fruit Exchange, Coyote Navels, $1.75.
Covina Fruit Exchange, Butterfly Navels, $1.75; Nonpareil, $1.85; Thompson's Improved, $1.60.
C. C. U. Redlands, Lion Head Navels, $1.90.
A. C. G. Azusa, Pointer Navels, $1.70.
Queen Colony, Royal Navels, $1.75; O. K. C. Navels, $1.70.
Riverside Fruit Exchange, Golden Rule Navels, $1.75.
C. C. U. Redlands, Perfection Navels, $1.80.
A. C. G. Azusa, Pointer Navels, $1.80.
Riverside Fruit Exchange, Fiesta Navels, $1.75; Standard, $1.35.

BOSTON, February 15, 1904.

S. B. Fruit Exchange, Pine Cone Navels, $1.70; Arrow Head, $1.50.
C. C. U. Highland, Trophy Navels, $1.80.
Riverside Fruit Exchange, Uncle Sam Navels, $1.55; Fiesta, $1.30.
C. C. U. Redlands, Blossom Navels, $1.45.
C. C. U. Casa Blanca, Daisy Navels, $1.40.
O. K. Fruit Exchange, Coyote Navels, $1.40.
O. K. Fruit Exchange, Coyote Navels, $1.55.
A. C. G. Azusa, Stag Navels, $2.00; Pointer, $1.70.

NEW YORK, February 15, 1904.

S. B. Fruit Exchange, Gold Buckle Navels, $1.90.
C. C. U. Redlands, Rose Navels, $2.20.
C. C. U. Redlands, Blossom Navels, $1.65.
C. C. U. Highgrove, Carnation Navels, $1.75.
C. C. U. Redlands, Sunflower Navels, $2.15.
S. B. Fruit Exchange, Silver Buckle, $1.85; Belt, $1.50.
Riverside Fruit Exchange, Uncle Sam Navels, $2.15.
C. C. U. Highgrove, National Navels, $1.85; frozen.
Arlington Heights Fruit Exchange, Golden Orange, $1.90; pale and frozen.
C. C. U. Redlands, Lion Head Navels, $2.10, Tiger Head, $1.75; frozen.
Duarte-Monrovia Fruit Ex., Iris Navels, $1.85. Iris Seedlings, $1.40; frozen.
Covina Fruit Exchange, Butterfly Navels, $1.35; frozen.
C. C. U. Riverside, Our Favorite, $1.50; frozen.

CINCINNATI, February 15, 1904.

S. T. Fruit Exchange, Alhambra Navels, $1.60; Don Quixote, $1.25; Glass Bowl Navels, $1.25.
San Antonio Fruit Exchange, Parrott Navels, $1.50.
C. C. U. Redlands, Blossom Navels, $1.35.
S. B. Fruit Exchange, Rialto Tally Ho, $1.50; Yacht, $1.30.
C. C. U. Anaheim, Azalia, $1.40; Dragon, $1.30.
C. C. U. Monrovia, Union Navels, $1.40; Lighthouse, $1.45.

Sold to date this season 7140, of which 537 are lemons.

Total to same date last year 5373, of which 665 cars were lemons.

Have you seen Roeding's new catalogue? It's a beauty. Bunch of grapes, Emperors, on the front in natural color, plate of figs on the back—good enough to eat—and a hundred and twelve pages between packed full of half tones and text description of pretty nearly everything which grows in the earth. Besides that, there are directions for planting, pruning, fig culture and a world of other information.

Mr. Roeding has each year gone one notch higher than the last year, but if he ever excels this year's effort he is a good one.

Mechanically it's Kruckeberg's best, and Krucke has done himself—and the book—proud.

DON'T discard your old furniture or piano, just because it has become scratched, and has lost its beauty. It can be made to look as good as new with one application of **SUNSHINE POLISH.** Nothing equal ever produced. 2 oz. bottles, 30c; 4 oz. bottles, 50c. Made and sold only by **SUN MANUFACTURING CO., VENTURA, CAL.** Sent prepaid. Positively guaranteed.

For Sale or Trade

Three hundred and twenty acres near Hemet, 50 acres under cultivation, balance pasture and bee land. Three springs, house, barn, chicken houses, yards, etc.

Ethel G. Smith **Hemet, Cal.**

ALIAS SUMMONS.
No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.
Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action above brought against you in the Superior Court of the County of Los Angeles, State of California, this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required the said plaintiff will take judgment for all money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk

ALIAS SUMMONS.
No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.
Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

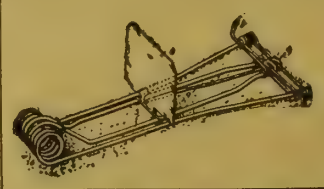
You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required the said plaintiff will take judgment for all money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk



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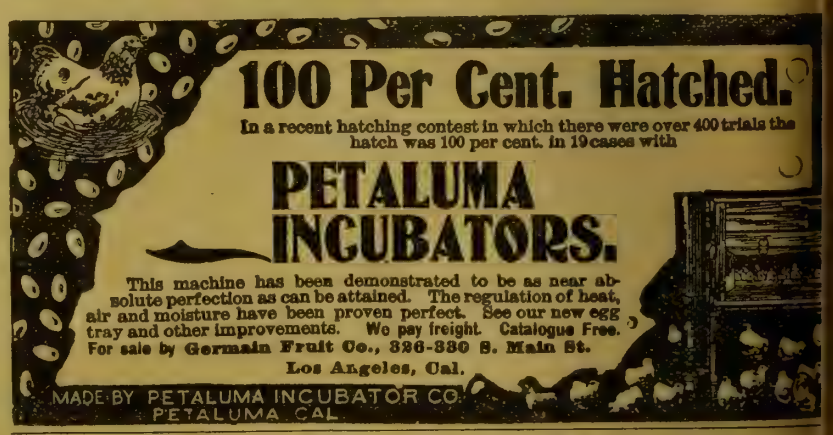
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In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St.
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CHICO NURSERY CO., INC.

WE STILL OFFER

BLACK WALNUTS Write us at once for quotations on the number you can use.

CHERRIES Black Tartarian, Ey Chapman, Yellow Spanish, Royal Ann, Black Republican.

APPLES N. Y. Pippin, Yellow, Bellflower, etc.

PEACHES Phillips, Tuscan, Cal. Cling, etc.

GRAPE VINES Tokays, Muscat, Mission, etc.

We are sold out of many leading varieties, so place orders for the above at once. Write for Catalogue.

CHICO NURSERY CO., INC., 308 WALNUT STREET CHICO, CAL.

200-EGG HENS

And How to Get Them

Buff Orpingtons
Courtesy of Captain Mitchell,
Santa Barbara

You want 200-egg hens? Undoubtedly you do. There is a way to get them. In fact, you can make them out of your own flock of poultry. Why be satisfied with hens that lay only from 50 to 100 eggs per year, when you can have hens to lay 200 eggs per year per hen?

We have learned how to make 200 eggs per year hens and we can make your hens lay that many if you will GET THAT AMBITION and follow these instructions:

1st. Commence with the little chicks. They must be fed on the proper food to FULLY NOURISH THEM so that they can be developed into good layers later on. Therefore it is necessary for their future welfare that these chicks be fed on COULSON'S CHICK FOOD.

Now, of course, it is necessary also that you take good care of pour poultry at all times. Be sure to keep them clean and disinfect their houses with lice killer at least once a week. If you are willing to do this then you are willing to strive for 200 egg hens and we can help you with the SCIENCE OF POULTRY FEEDING.

2nd. The pullets and hens that you wish to develop into good layers and 200 egg hens: feed them a warm mash every morning of COULSON'S EGG FOOD. "No other kind is just as good." NO OTHER KIND is good enough; so if you want 200 egg hens it is necessary that the hens get COULSON'S food for then they get the PROPER FOOD.

At noon, at toward evening, feed the hens Coulson's Scratching Food (which is composed of wheat, corn, hulled oats, etc.) and give the hens plenty of green stuff and plenty of clean fresh drinking water, feed Coulson's food every day and you will develop a strain of 200 EGG HENS.

If your feed dealer hasn't got Coulson's Scratching food, ask him to get it for you. Send for circular describing it.

Many of the largest poultry farms in the county feed Coulson's prepared poultry foods exclusively and purchase it in car load lots.

Situated on the coast in Marin Co., overlooking the Pacific ocean is the 1000 acre ranch of John McDonald, who has, in connection with his dairy ranch, about 2000 hens which are being fed on Coulson's Egg Food. Only a few days ago we shipped him 200 sacks Egg Food and also 50 sacks of Chick Food to feed the thousands of little chicks which he is hatching out.

William Bassett, Tomalis; Geo. Gaston, Two Rock; and A. D. Rezendes, Tomalis; are other large poultry raisers who feed carloads of Coulson's feed.

You can get cheaper foods than Coulson's but they do not contain all the necessary articles and if you want to develop good layers and make the most profit out of poultry, feed Coulson's prepared foods; costs a trifle more than some other kinds but gives GREATEST RETURNS.

When you buy common feed you pay $24 or $25 a ton and it contains about 100 pounds of protein. Now, a ton of Coulson's Egg Food contains about 200 pounds of protein or in other words, there is as much protein (egg and flesh making substance) in ½ ton of Coulson's feed as there is in one ton of common feed. So you are making a great mistake if you don't buy Coulson's feed.

The season is now at hand when the majority of the poultrymen are hatching out chicks by the bushels and a great many are hatched to what sad end?

Have you ever stopped to think how many hundreds, perhaps thousands, of chicks you would have if these fine hatches would not die off so rapidly?

It is to our interest and our business to prepare a feed for little chicks so that the poultrymen can raise the most chicks possible and to have them grow fast and reach maturity quickly and be big, strong, healthy chicks, and we do not only believe, but we know that we have a Chick Feed that fills the bill perfectly and properly.

Only a few days ago we sent 30,000 pounds of this Chick Food to one party. Our Chick Food is used and recognized to be the best by the most thorough and up-to-date poultrymen and the largest poultry farms in California.

For instance, Purvine, Thoergesen, De Rezendes, John Marshall and others out in Two Rock valley, where the largest poultry farms in California are situated. These gentlemen all keep from 3000 to 7000 hens and they have to hatch thousands of chicks every year to keep up such large flocks. They have been in the poultry business for years and have had plenty of experience and tried all kinds of feeds and ways of feeding chicks, and they have now decided that hereafter they will feed Coulson's Chick Food exclusively until they get at least 6 weeks or 2 months old. They have found out that they can raise the most chicks and the nicest chicks on Coulson's Chick Food. These men use tons and tons of our Chick Feed.

Now, perhaps you will say that you are going to try a little millet seed or cracked wheat, rice or oatmeal, etc. But, my dear friend, don't you know that you can feed your chickens on Coulson's Chick Feed and it won't cost you a cent more and that in Coulson's Chick Feed there is a variety of 20 different kinds of grains, seeds, meals and containing everything not only to fully nourish the chicks and make them grow to be big, healthy fellows, but also contains articles that will check and prevent bowel trouble and other fatal diseases.

We are just in receipt of a letter from a poultryman in Windsor who says that he raised 550 chicks on Coulson's Chick Food and at the age of 2 months he sold the broilers for $3 a dozen on the place.

We have White Minorca chicks ourselves that are only 6 weeks old and weigh about 2 pounds apiece.

In conclusion, will say that for your benefit as well as ours we hope that you will raise all your chicks this year by feeding them Coulson's Chick Food.

It your feed dealer hasn't got it, send to us for it.

THE FEED
FOR
Little Chicks

$25 in Gold

We want pictures of chicks and hens that have been fed on Coulson's Poultry Foods and we offer $10 IN GOLD for the best picture of little chicks fed on Coulson's Chick Food.

$5 IN GOLD for the second best picture of little chicks.

$5 IN GOLD for the best picture of hens or poultry that are fed on Coulson's Food.

$1 each for the next 5 best pictures of poultry.

A package of KALE SEED free to everyone who answers this advertisement.

Address Prize Department,
A. R. Coulson Co.
Prizes awarded 1st of May.

If Your Grain Dealer Hasn't It, Send to

THE A. R. COULSON CO.

Incorporated. Manufacturers of Poultry Foods and Remedies.

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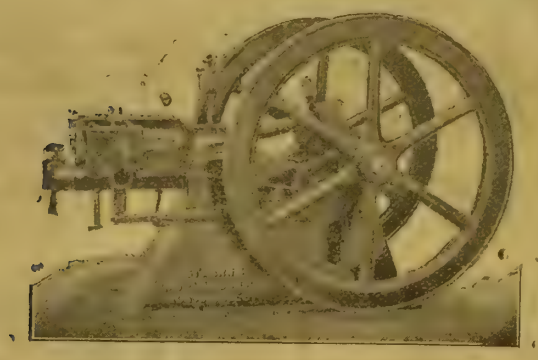
OF BUILDING GASOLINE AND DISTILLATE ENGINES



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Write for samples, prices and booklet Los Angeles, Cal.

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Write for further information. Send for catalog.

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Baker's Traceless Harness

This harness is of great value to all fruit growers, vineyardists and orchardists. Enables close work everywhere, with protection to trees, vines, etc., while cultivating. Perfect for all low down work. Does away with the old whiffletrees and traces. Handiest of farm equipments. Saves its cost many times a season. Endorsed by users everywhere. Write today for full information. Agents wanted.

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Sole Agents for California.

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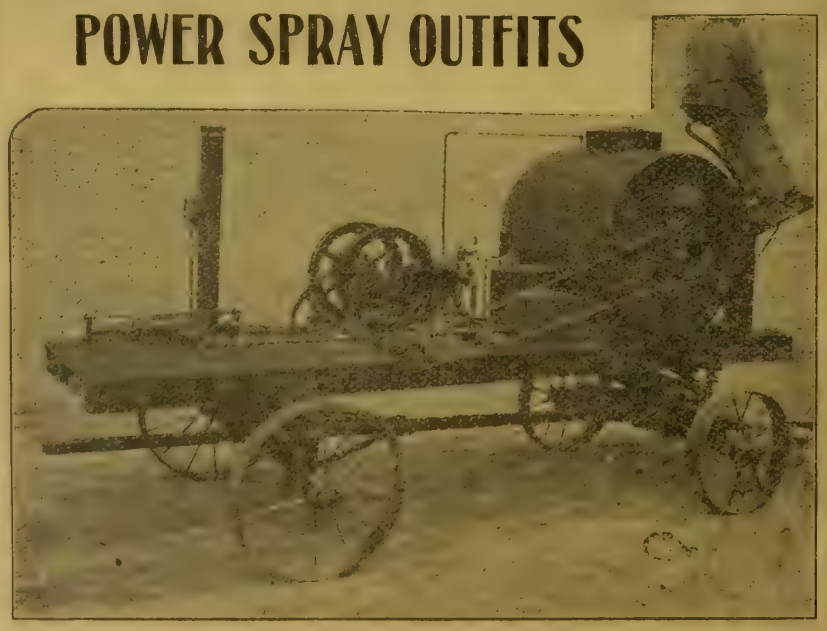

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WATER WORKS, MINING AND IRRIGATION PLANTS

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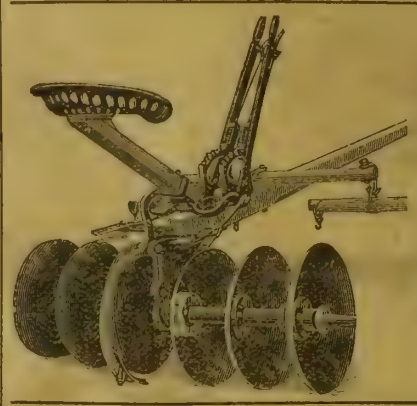

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FRESNO, CALIFORNIA

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That's the title of a booklet that any Santa Fe agent will be glad to furnish you. Tells all about the comfortable way to travel on that Eastern trip. These sleepers run every day, and on three days a week are personally conducted, Santa Fe Conductors accompanying them to look after ladies and children and the infirm. Berth rate in these sleepers is one-half the first-class.

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NON--SHRINKING WATER TANKS

The only ones suitable for DRY, HOT CLIMATES

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LOS ANGELES SAN FRANCISCO

FEBRUARY 26, 1904

IN THIS ISSUE:

The Planting of Citrus Trees.

Northern Pear Blight.

Apple Growers Meet.

Feeding for Eggs.

Texas Fever—Cause and Remedy.

A PERFECT ORANGE TREE. (See First Page Article.)

Citrus Stock

It has rained and now is the time to send in your orders. We have a first-class stock of Navels, Navelencias, Valencia Lates.

All Stock two years old on four-year-old roots. Large, healthy, clean.
WRITE FOR PRICES.

Mills & Masters

Jas. Mills, Mgr. **Riverside, Cal.**

THE TILTON

The Tilton Apricot — it's a winner. Fifteen years' test has proved it an invariable bearer of high colored, large profitable crops of Apricots. Thousands already sold—a few left for this season. Write quickly if you want them from the original Tilton man.

J. W. BAIRSTOW, **HANFORD, CAL.**

WOODBURY Business College.

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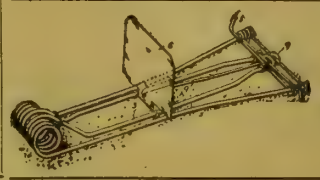
New College Building, finest equipments. Strongest teaching force, superior bookkeeping, shorthand and tyewriting methods. Write for illustrated College Journal.
E.K. ISAACS, Pres



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Small, simple and sure. At all dealers. If your dealer does not handle same, send 15c in stamps and mention your dealer's name and get sample by mail postage paid at special rates.
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TREES

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 9 LOS ANGELES, CAL., FRIDAY, FEBRUARY 26, 1904 Subscription $1 a Year

THE PLANTING OF CITRUS TREES

Some Pointers Secured in an Interview With R. M. Teague, the Largest Citrus Nurseryman, by Which we Mean the Proprietor of the Largest Citrus Nurseries in the World.

The rains which have been so shy this year have somewhat interfered with planting of deciduous trees and to a certain extent with that of citrus trees. The last shower which we had, however, has stimulated trade in orange trees and many busy planters are now grading and putting the final touches on the ground for the future orange grove.

The planting of an orange tree is of enough importance that the utmost care should be used in selecting location, soil, water, preparing the ground and surely in the selection of the trees for the planting. This latter calls not only for judgment in selecting variety which will prove profitable, but in selecting stock which will prove true to name and where handling from the seed to planting time has been such as give stocky, strong growing trees after planting in orchard.

The matter of location has been tested so thoroughly that even a novice may soon secure information by a little observation, which is worth more than anything we can say in these columns. That is, when it is known that oranges grow all the way from San Diego to Shasta, and yet in that vast stretch are many more acres on which the orange will not grow than there are where it will do well, it may be seen that immediate surroundings must be considered. The greatest body of land in which the orange is supreme and successful is from Riverside and Redlands on through the valleys of San Bernardino and Los Angeles counties, within a few miles of the ocean. Then there are sections in San Diego, in Tulare, in Fresno, Sacramento, Orange, Ventura, Santa Barbara and Butte, Sonoma, yes and Shasta counties, where the orange also produces good fruit. The Porterville section of Tulare county has taken no small amount of this year's nursery output.

Mr. Teague told us in a recent interview, that the Porterville, Lindsay, Exeter and Lemon Cove section was taking a large quantity of San Dimas trees this year. The cheaper land and water of that section is proving a strong drawing card.

As to soil and water, the shrewd observer will there also find his eyes of value. Where is the successful grove of today? Adjoining it the conditions must be similar. As a general thing those groves will not be found on the black 'dobe nor where cold and undrained soil is. A warm, loose, underdrained soil is required for best results. And for that soil there must be water—a plenty.

Preparing the ground and planting. That's right in order at this moment, for now is planting time. The San Dimas nurseries have issued a little booklet full of information and from it we quote:

"Preparation of land by deep and thorough cultivation and laying off to secure straight rows by the square, quincunx, and hexagonal methods, should be carefully observed. The orange, in common with other evergreen trees, is exceedingly sensitive to exposure of its roots, and for this reason the handling of the young trees is very different from that of ordinary orchard trees. Exposure of the roots, or careless planting, will consign the tree to a slow, sickly growth, and often kill it outright."

"Planting.—This may be done from February to August, in very warm and sheltered localities. Early planting generally gives the best results. Trees are planted balled or with bare roots, acording to the ideas of the buyer. The tree should be set slightly deeper than it stood in the nursery. Holes should be sufficiently large to admit of the roots being spread out in their natural position. Do not let the earth turn them down in a mass around the tap root. Cut off all broken or bruised roots. Top soil is best for filling in. The soil should be worked in well around the roots and irrigated immediately. Distribution of trees to the holes in advance of actual setting is a pernicious practice, as the roots quickly become dry. Keep them constantly covered with moist packing."

Mr. Teague's little book "The Yea and Nay of Citrus Culture," also has many suggestions in after culture, pruning, fertilizing, etc., which makes it of value to intending planters, especially interesting is the description of varieties.

The San Dimas nurseries handle nearly every thing in citrus stock—the Washington Navel, Thompson Navel, Golden Nugget Navel, Valencia, Ruby Blood, Malta Blood, Kumquat, Tangerine, Satsuma, Sweets, Mikes and so on ad infinitum, with oranges, all kinds of lemons, pomelos and citrons.

For instance, to show the worth of this booklet, we quote from the description of varieties:

"Kumquat or Kin-Kan. — This unique and curious member of the citrus family, commonly called Kumquat in this country, is a native of Japan, where it is known as Kin-Kan, which means gold orange. Kumquat is Chinese for the same meaning. It bears in great profusion a small and very handsome, deep yellow fruit. There are two kinds, alike in tree and differing only in size and shape of the fruit. The Marumi bears a round fruit, from three-quarters of an inch to an inch in diameter; the Nagami, an oblong fruit somewhat larger. The latter is the kind commonly seen in this country, is rather more desirable on account of the large size of its fruits, and is the one we offer. The whole fruit, rind and all, is eaten, and people become very fond of them. The sweet rind and agreeably acid pulp makes a qiquant combination relished by most palates. Preserved in sugar or crystalyzed, the Kumquat wherever it is known, is deservedly popular."

But one of the most important factors in Mr. Teague's nursery work is the uniformly fine stock, free from all pests, and so treated in nursery as to make a fine orchard growth when properly planted.

Thomson's Navel Orange Grove seventeen months from planting. Eureka Lemon Grove seven years from planting.

Reports from the Celery Growers' Association at Santa Ana give the shipments to date for this season as 1177 carloads, of which 341 cars were sent out in January and 201 cars thus far in February. In January the growers received $71,400 for shipments and for December received in excess of that amount. Prices ruled favorably and conditions point to a record return from the year's crop. The recent rains have made a large quantity marketable that would otherwise have been lost.

Dr. Albert Shaw, editor of the Review of Reviews, who has been visiting California recently, started east last Sunday from Riverside. Before leaving he mailed to President Roosevelt some of the leaves of an orange tree which the President had planted in Riverside last May. Dr. Shaw said to the editor of the Riverside Press: "It seems to me that California has greater possibilities of development than any other section of the Union."

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Friday, Feb. 26, 1904

ITEMS OF INTEREST.

The Treaty Ratified.—The Panama Canal treaty has been ratified by the Senate. It is a great triumph for the genius of American progress. Its accomplishment is destined to render us supreme in the commerce of the world if we will but build up our merchant marine service. This achievement is the dawning of a new day in our national life.

* * *

As a result of the visit to San Diego last week of John D. Spreckels it is announced the elaborate system undertaken by the Southern California Mountain Water Company, upon which work has been suspended two years, will be completed. The enterprise contemplates the storage of water at Morena dam and bringing it to that city for domestic and manufacturing purposes.

* * *

The Anti-Docking Bill.—A bill for the prevention of cruelty to horses by "nicking" or "docking" their tails has been introduced in Congress. It certainly should meet with favor in both houses. This humane measure has been put through at the instance of the humane societies of the larger cities throughout the Union. The bill should have the support of every right-thinking man in Congress. The nicking and docking of horses to make them appear "smart" is a barbarous practice. It is less excusable and more brutal than the cruel branding iron of horsemen on the plains of the frontier. The measure should be made as drastic as the law defining and punishing mayhem, for that is just what it is. It had its origin in the cropping of the tails of army horses, as a provision against mud. It became a fad among the English gentry, who would ape the military in everything they could. Like all fashions it was carried to extremes. The shorter the horse's tail was cut the "smarter" it appeared, until it became a common saying on the continent that "nobody but an Englishman can surpass the Almighty in making a horse." When our British brother chopped off his horse's tail clean to the quick and dubbed him a "cob," he did a smart thing but did not improve the appearance of the horse. When President Roosevelt wanted a pair of carriage horses he expressly stipulated that no bobtails need apply. He wanted a team in its entirety, and he was right. The anti-docking bill should pass.

* * *

Apathy of Prune Men.—The Fresno Republican calls attention to the Oregon prune market and the efforts being put forward to create some activity there in the following strong terms:

"Up in Washington the prune men are up against a state of affairs which is not unlike that which besets the raisin growers of Fresno. But there something is being done to start a market in marked contrast to the bump-on-the-log policy which is being followed here."

The conditions surrounding the Oregon market, it appears, are very depressing, and up to this time nothing is in sight to awaken activity. Not content to allow the existing conditions to obtain longer, the Oregon prune growers have devised a scheme to rush the market, so to speak. They have arranged to send a competent salesman into the Middle West cities and towns and arrange for a house to house canvass for the sale of fruit in 25-pound boxes. The price fixed is 10c per pound delivered, making the cost of a box of prunes $2.50. The plan includes the payment of 50c per box to the agents. Believing that a 25-pound box, selling for $2.50 is too large to find ready sale in cities, the association is planning to procure pasteboard boxes, holding from 2½ to 10 pounds, to be used in putting prunes upon the market in popular-sized packages. All of which is merely objective to the point that the Fresno prune growers may profit by the energy displayed by the Oregon prune growers in pushing their product upon the people.

* * *

Lemon Growers Losing Money.—T. J. Ashby, manager of the Pasadena Lemon Growers' Association, complains that the lemon growers are not making the money that they should. Discussing the cause of this condition he ascribes it to several reasons, but the most serious one is the market. As the figures run, for the past three years, the last five months of the year, the growers have only received 45 cents per box. "This means," says Mr. Ashby, "an average sale in the eastern market of $2.10 for a box containing 25 to 30 dozen lemons, weighing 85 pounds." Which means, we suppose, a loss to the raiser of from 20 to 30 cents per box. The remedy Mr. Ashby thinks lays in the methods adopted by the grower. First, by the best horticultural methods, the grower can raise more fancy fruit and less culls than he now does. By intelligent pruning and use of water he can raise more fruit for summer trade than is now done, and by more careful methods of picking, delivering and storing he can have less loss by decay." As to a market, a better one can rarely be found, this gentleman says, and he cites the fact that Hongkong is now caring for a great deal of the lemon product of California. Australia, too, consumes our lemons, and San Francisco is thirty days from Australia, and the cost of placing large, well packed shipments of lemons in Melbourne, including local freight, ocean freight, packing, tariff and commission, is $2.50 a box as against the $1.65, freight, packing and selling charges to an eastern town. It is summer in Australia, and summer prices rule during the months when our winter prices rule. Their average price is about 25 shillings ($6) per box during the time our average price is $2.10."

It seems from Mr. Ashby's investigation that few lemons are grown in Australia. They import from Italy and it takes six weeks against our thirty days to get them through via Suez. "The facts, says Ashby, " are in favor of carefully selected fruit being packed and shipped under one brand to our Australian friends, and it shows a strange apathy or the difficulty of changing trade methods that it is not being done by our large organizations.

CITRUS MARKETING.

A short time ago the citrus fruit growers of Tulare county appointed a committee to investigate the methods employed by the Southern California Fruit Agency in marketing the orange crop of the past season, dissatisfaction with the prices received from which, was the cause of this action. A committee was appointed to visit the Agency headquarters and interview the management as to why better prices have not been received by the members for the fruit handled by the Agency during the season last past. The committee, as we understand, did not go to Los Angeles, but instead the members of the Porterville Citrus Association met a few days since at Porterville, and after a full discussion of the situation adopted the following resolutions:

Whereas, we, the growers of Porterville Citrus Association fully believe in the principles of co-operative marketing as exemplified by the Southern California Fruit Exchange, and have been fully satisfied with the results of its methods prior to the organization of the California Fruit Agency, and

Whereas, the Exchange is an organization of growers, having the best interests of the producer at heart, marketing fruit at cost and returning to the grower the net proceeds; while the California Citrus Union is an organization of packers and shippers, and may rightly be regarded as speculative in its methods: and

Whereas, these are heterogeneous elements which cannot be successfully harmonized, which conclusion is substantiated by the experience of the past season; and

Whereas, by the formation of the California Fruit Agency the Southern California Fruit Exchange has limitations of membership imposed upon it that are not for the best interests of the grower;

Therefore, be it resolved, 1st, that hereafter it shall be the purpose of this Association to do all within its power to maintain the Southern California Fruit Exchange intact, and to assist it in returning to its old policy of independence;

2nd, that to facilitate this action we open the doors of our Association to all growers whether members of the California Citrus Union or otherwise, desiring membership;

3rd, that we urge all other associations to unite with us in requesting the Tulare County Citrus Fruit Exchange to invite the formation of new associations of growers at any place where present packing facilities are insufficient for handling the crop in an expeditious manner;

4th, that should the Southern California Fruit Exchange continue in its present alliance with the California Citrus Union, and should there be no similar organization of citrus growers formed to which we could unite, that we favor an independent organization of the growers of Tulare County; and

5th, that we furnish to our sister associations reports of our action in this meeting, and thus hasten the realization of its purpose."

With all the inside facts which have led up to this action on the part of the Porterville Citrus Association, this paper is not advised. There may be just cause for the dissatisfaction which exists, but on the general principle of co-operative marketing there can surely be no direct dissatisfaction.

The varied experiences of independent associations formed to take the place of the Exchange, in the past, have led to but one conclusion, and that is this: that of all the agencies employed to market the fruit crops of California the Southern California Fruit Exchange was most conducive of results. It brought order out of chaos and made profitable, to an extent, the orange growing business which before the existence of the Exchange was not remunerative to the growers of citrus fruits.

The Southern California Fruit Agency is the child of the Fruit Exchange and the California Citrus Union, but its life has been too brief to be able to say definitely to what extent its efforts shall be conducive to the prosperity of the orange growers in California.

We are glad to note, however, in the resolutions adopted by the Porterville Citrus Association, that the members are not against the Exchange or the co-operative idea, but merely question the advisability of longer remaining connected with the Citrus Agency made up as it is of the Exchange and Citrus Union.

Under his department Mr. Jeffrey discusses, at length, the Agency side of this question, which is one of the paramount subjects before the fruit growers of this State at this time.

BY J. W. JEFFREY, LOS ANGELES

WISE COUNSEL NECESSARY.

There is a disposition among some of the growers in the northern citrus belt to hold the California Fruit Agency responsible for the low prices received for citrus fruits the present season. While criticizing the work of the Agency these growers unanimously re-affirm their adherence to the co-operative system of marketing, and believe in fostering an enterprise that has the best interests of the orchardist as its governing policy. The growers of the north claim that there are heterogenous elements combined in the Agency that cannot be successfully harmonized, and point to the experience of the past few months in substantiation of this claim. Another claim is that the Southern California Fruit Exchange has placed limitations upon its membership that are not to the best interests of the grower. The disposition to hold the marketing agency responsible is natural, but experience may prove that there are other things to reckon with entirely foreign to any system of marketing that could be organized.

Those firm northern believers in co-operation are forced to consider the fact that the organization they now commend, namely the Southern California Fruit Exchange, was unable, after ten years of the most strenuous efforts ever put forth in the name of agricultural co-operation, to gain a constituency of more than half the citrus fruit growers of the State; that because of this fact the Exchange was utterly unable to hold the markets steady for the whole, while 50 per cent of the growers were selling independent of the co-operators; that a resultant condition confronted the entire industry last spring as bad as the imagination can conceive; that if the principles to which the Porterville growers now make new allegiance are good business principles they are good for the whole industry, and unless they are acceptable to practically all the growers other circumstances have play that neutralize the application of those principles. These growers must also remember that experience has shown that the citrus business cannot survive the competition between the different lots of fruit when offered through a multitude of sources, each irresponsible to the other and the grower entirely out of control: that the counsel of thousands of citrus growers is better than the resolutions of a few, for there is a controlling degree of interdependence upon each other and upon proper distribution resulting from co-operative policy that is as necessary to the sale of fruit as is its production; that no change in the present arrangement should be contemplated that does not insure a central control, without which experience has shown that utmost disaster has befallen the industry when its products were not 20 per cent of the present output. If these things are true we are inviting disaster in advocating independent action or again attempting to market the great quantities of fruit without a plan recognizing the dependence of each section upon the other.

Those who are expecting the ideal in co-operative marketing have forgotten to reckon with the human nature displayed in all previous attempts to unite the growers in general upon a co-operative system. There was a great deal of it extant up to the time of the formation of the Agency, and there is more of it coming. With this in view the growers are forced as a whole to compromise upon a plan as near ideal as possible. If the members of the Citrus Union are charged with "adhering to speculative methods" under the Agency plan, the answer is that one-half the growers approved of those methods up to the time of the Union's advent into the otherwise co-operative whole. But is the plan of the Citrus Union speculative? Its members agree to pack, and sell the fruit through the agency which they help to sustain, at a flat rate per box. Formerly they bought in lump quantities, or by the pound or by the box—all purely speculative and forming a leverage by which to break down prices and yet make high profits on their investments. One firm a few years ago paid a crop estimator a large salary just to place the firm in a position to drive sharp bargains with the growers. All this has disappeared, and now the Union members have been limited to legitimate profits arising from packing and selling the fruit of their old customers. Some of the associations of the Exchange have paid for packing services in this way for years. "The independent policy of the Exchange" is a pretty phrase, but it cannot be used by those who remember the conditions of last March. Nothing can be independent which is bound hand and foot by circumstances. That was the condition of the whole field last March, and it will prevail again unless a plan is devised to include all and that is better than the Agency.

CITRUS FRUITS

BY J. W. MILLS, ONTARIO, CAL.

PINE NEEDLES AND ORANGE TREES.

Editor Cultivator:—Will you please answer through the Cultivator if you think that pine needles injure the soil, or do they have any effect on orange trees growing near to them? I have been told by different parties that the needles poison the soil. My observation has been that the roots of the pine needles did more damage than the needles. I do not think that the needles do much good on light sandy soil, but do not think that they do any harm, though on heavy soil I think that they are a benefit. I noticed that where I dug down four feet and about four feet from the pine trees and cut off the roots the orange trees were much benefited.—Subscriber, Lordsburg.

You are undoubtedly right about the bad effect of pine trees growing next to orange trees. Pine needles have gained the reputation of being poisonous to the soil from the fact that seeds do not grow where they are very thick on the ground. There are two reasons for that. When enough needles fall to cover the ground, the trees are so large that they shade the ground when nothing but perennial roots that require shade will thrive there. The fact that the needles form a mat would also prevent seeds from gaining a hold on the ground. The same conditions exist in all evergreen forests or under large isolated trees. For instance, under the live oak nothing will grow when the fallen leaves form a covering to the soil. Isolated trees whose branches come close to the ground have no grasses or annual plants growing beneath them. Still, when the trees are cut down, the soil there is exceedingly rich. If your pine trees did not have the power to send their roots out into the orchard and rob the orange trees, the pines could not live. Cutting off the roots as you describe will be as effective in retarding the evil influence of the pine trees as it would that of other trees used as a windbreak.

To Kill Red Scale.

By C. A. Day.

I have received from a fruit grower of Riverside a letter in which are asked a number of questions relating to the control of red scale. As these questions are of general interest to citrus fruit growers, I take the liberty to answer them through the columns of the Cultivator. The questions are as follows: "Has distillate emulsion used in your district during the past season been successful in destroying the red scale?"

"In speaking of red scale, what has been your experience with the pest? Is it increasing in your district?"

"Can every particle of red scale on a tree be effectually destroyed? If this is the case, why is it that the campaign in Los Angeles county goes on with ever increasing energy?"

The distillate emulsion and the distillate mechanical mixture have both been used in my district; their work on red scale is not satisfactory, and the continued use of these sprays or any other sprays for that matter will not prevent the scale from increasing and infecting adjoining orchards.

To annually spray an orchard slightly infected with red scale will result in the scale increasing from year to year, and the orchard will become a source of infection for the surrounding orchards.

The red scale breeds throughout the year when the weather is warm enough, but in the winter season the period of its development is much longer than in the warm weather of the summer. The principal breeding season is from the last of May to late in the fall and during this season the young scale arrives at maturity in from 30 to 40 days. The female scale produces about 200 young. From this it will be seen that the increase from a single scale for the summer would be many thousands. Spraying has been a failure because it does not in a single instance clean a tree and always leaves a good stock of scale with which to begin the principal breeding season, and during a part of which there is no treatment applied to hold the red scale in check. The habit of the red scale is to establish itself on the trunk, limbs, twigs, leaves, and fruit of the tree, and for this reason, though the spray may be strong enough to kill the scale when it strikes them right, it does not reach and destroy all of the scale.

Two per cent distillate mechanical mixture as applied in a number of instances that came under my observation left a very large amount of live scale. There are no eggs and any treatment that will destroy the old scale will make clean work. It is possible to destroy every living red scale on a single tree by means of a single fumigation, but in experience we find it difficult to destroy every live red scale on an orchard of any extent. The failure in this case is due to carelessness or incompetency on the part of the fumigators.

In fumigation for red scale the trees should be in condition to stand the required dose, the tents should be whole and practically gas tight, and remain on trees for a full hour. The proper density of gas should be maintained for the entire time. This can only be secured by using a sufficient quantity of cyanide and using water in proportion of 3 or 4 to 1. Measurement of tents will aid in securing perfect work in this estimating of the dose.

Where there are only a few infected trees in an orchard, it is advisable to inspect the whole orchard and mark the infected trees and fumigate at once; but this method will not exterminate the scale for the reason that the best inspector in the world could not find every live red scale in an orchard because of their habit of locating on every part of the wood, foliage and fruit of the tree, and because the young scale are very small. When the scale becomes generally scattered over the orchard, the whole orchard should be fumigated. After fumigation a close watch should be kept, especially through the summer season, for the appearance of red scale. Careful inspection of the whole orchard should be made and infected trees fumigated. If an infected tree had a considerable number of matured scale that are breeding, it would be a good plan to fumigate the adjoining trees in order to catch the young scale that are moving. The scale at this stage is very small and soon locates and remains immovable during its life time.

The sections of Los Angeles county where the red scale is under the best control is where fumigation for black scale has been general and constant. This is the case especially from the San Gabriel river east to the county line, where the scale is practically exterminated. We find the red scale increasing where fumigation has ceased. With the destruction of the black scale by parasites and the consequent discontinuance of fumigation, we may expect in the future an increase of red scale, with the probability, if spraying is continued, that it will come to infect every orchard in districts where it has or may gain a foothold.

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The Apple Growers' Monthly Meeting.

The monthly meeting of the Los Angeles County Apple Growers, held in the horticultural commissioners' rooms on Saturday, was quite generally attended and of more than usual interest. Although no program had been prepared, the session developed discussion along lines which are of special concern to apple growers in this section.

At a previous meeting a resolution had been adopted endorsing the action of the Board of Health of Los Angeles in relation to the sale of wormy or scaly apples, and also endorsing the method employed by R. E. Drummond in carrying out the order of the Board of Health.

The action of the apple growers in endorsing these officers created quite a range of discussion, part of the members favoring, others criticizing the endorsement. Some held that the resolution should be rescinded, as it is thought a special hardship is worked upon the small apple growers by reason of the fact that apples from outside the county find a ready market which are not better than the culls thrown out by the health officers, and also from the fact that the method of inspection is so sharp as to make it difficult for orchardists to conform to the requirements of the rules laid down by the health board and have any apples to market.

Mr. Ward, president of the association, read a notice, sent to all apple growers—a part of which is here quoted:

"It is unlawful to sell or keep for sale in the city of Los Angeles any fruit or vegetables that are infected with scale or other insects, whether larvae or pupae, or that are in any manner affected so as to be unwholesome or unfit for food."

This notice was signed by L. M. Powers, health officer, and R. E. Drummond, inspector.

It was on the action taken at a previous meeting endorsing Mr. Powers and Mr. Drummond, and their summary dealing with all infected apples, that the criticism came at Saturday's meeting.

Mr. Ward thought that the same action applied to the vegetable and cereal markets would cut out nearly all, or at least a large per cent of the vegetables sent to market as well as corn, hay and the cereals. The act of the health board he deemed too sweeping, and he was positive that erroneous conclusions would be reached by the impressions which the resolution of endorsement carried with it. He did not think culled apples should be eliminated from the market. He strongly favored cutting out infected or bad apples, but culled apples are not always infected nor bad.

Mr. Squires supported the views of Mr. Ward, and contended that wormy apples are not of necessity unhealthy and should not be thrown out by the inspector. Mr. Jeffery came to the support of the board of health and the inspector and made a strong argument in favor of keeping the standard of fruit to a high order. He said the Board of Health cannot and will not condemn fruit unless evidences of infection are present. He thought it quite likely individuals would object to the action of the board, but it was a matter which would, in time, benefit the grower. "The board," said Mr. Jeffery, "is not strict enough. The resolution instead of being rescinded, should be made stronger." "The orange growers have been compelled to throw out the culls," said he, "and why should apples which are infected be allowed to sell any more than infected oranges." In closing his talk Mr. Jeffery asked "Which will lead to the greater loss, foreign fruit which is not infected, or culls in general use with attending lower prices?"

Mr. Ward answered Jeffery at length and said, "It is not necessary to legislate against apples for each individual buys his apples on their merit; oranges they do not buy as they do apples, for they don't know so much about them." Messrs. Harper and Squires were of this opinion. Harper feared the restrictions of the Board of Health might become so severe as to injure the apple trade. Squires did not think the apple growers of Los Angeles county would be benefited sufficiently to justify the quarantining of northern apples because they are culls. Along this line, pro and con, the argument ran, but without any formal action rescinding the resolution which was the cause of the debate.

Mr. Maskew urged incorporation as a means of counteracting any unjust legislation against the apple growers of Los Angeles county. Mr. Hunt supported this view as did some others, but the concensus of opinion seemed to be that the time is not yet ready for such action.

Mr. Searles desired information as to spraying his trees for San Jose scale, and Mr. Maskew replied favoring spraying, and said it will kill the small scale and the large ones not killed will leave the trees. Mr. Ward said his experience with the ladybird is that it is a thorough cleaner of San Jose scale.

At the next meeting a program of papers is to be prepared and topics of interest discussed. As a whole the meeting of last Saturday was interesting and instructive.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

THE NORTHERN PEAR BLIGHT.

A very uneasy feeling has been prevalent among the pear growers in Sacramento and Placer counties, for fear that the malignant pear blight, which has wrought such havoc in the upper San Joaquin valley, had got a foothold in the orchards of those sections. From a very thorough inspection lately made, it appears that such is not the case, and while there are many cases of pear blight in which many twigs and some of the larger limbs of the trees die back from some unknown cause—and this form of blight has been very serious for several years past—the malignant form of the pear blight, as it has shown itself in the southern counties of the San Joaquin, does not appear to have obtained a foothold. The blight in the Sacramento region attacks old trees principally, and those which have been weakened by many years of severe pruning. The severe cutting back year after year which prevails here seems to have lessened the vitality of the trees until they are ready to fall easy victims to any disease that is around. Young trees, although in full bearing in the same vicinity, do not seem to be attacked. In these respects the disease does not resemble that which has caused such devastation in other parts of the State. There the most vigorous trees are the first to succumb. The better cared for and the more thrifty the tree, the more liable it is to attack, while those trees which have been most neglected and have made but a stunted growth withstand best the attacks of the blight baccili. With the malignant pear blight the point of attack is, in the great majority of cases, through the blossoms, and we have seen orchards in which every blossoming tree was attacked and ruined, while not a young tree showed a symptom of the disease and were growing as thriftily as though there were no such disease in existence. In the case of the northern pear orchards it is safe to state that the malignant form of the blight has not yet appeared among them and that the disease which is now affecting them, much as it is to be feared, is not nearly so bad as that which has prevailed in the San Joaquin valley pear districts. Remedies in these cases are hard to recommend. The disease is an insidious one. It works wholly in the sapwood of the trees and does not make its appearance until the damage is done, for when the pear blight makes itself visible that part of the tree on which it shows itself is beyond redemption. Then, too, as it works wholly below the surface and in the sap wood of the tree, there are no sprays or other surface treatment that will reach it. The only thing to be done when a tree shows signs of being attacked by blight is to cut out the affected parts, well below the point of infection, and burn the prunings at once. This may, in the case of an otherwise healthy tree, be the means of saving it, in other cases it may prolong the life of the tree and enable the owner to get several crops before the final end, which in the case of old, worn out and unresisting trees, is almost inevitable.

* * *

CHEAP NURSERY STOCK THE DEAREST.

The most expensive way of saving money is in buying cheap nursery stock for planting, and yet it is often done by people who pay dearly for it afterwards. The purchase price of a tree is by far the least part of its cost; the expense lies in its planting and care to bearing age, and if then the planter finds that he has got an inferior tree, or one not true to name, he may have to throw away not alone the first cost, but also the added care of it up to that time, the interest on his money, and worst of all have lost the precious years that will elapse before he can get fresh stock into bearing condition. Cheap trees are the poorest form of economy. In setting out new orchards get only the best, both of stock and varieties, it does not matter if the first cost is a few cents more per tree, good thrifty stock is worth the added price, and as it represents additional care and labor on the part of the nurseryman, he is entitled to the extra price. Purchase your stock, too, of established firms, people who are responsible for the stock sold and whose representations are good, or who can be held to account if they should prove otherwise. Responsible, well established nurserymen, who have a business reputation which it has taken years to build up, at stake, cannot afford to deceive the buyer; it would not pay them. The reverse is true of the traveling representative of some unknown firm. His whole object is to make a sale and he can offer any inducements to get contracts. He is never out of any variety the purchaser may want, and can fill a bill for a dozen varieties from the same lot. It makes no difference to him for he knows that when the trees get into bearing and the purchaser finds out the cheat, he will be far out of reach. Now to summarize: Purchase only the best stock procurable, be sure of the varieties, and be sure to buy from some well known and well established nursery.

* * *

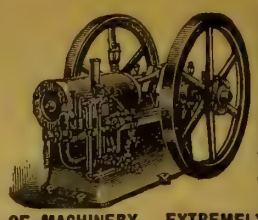
CORPORATE VANDALISM.

I do not know of any greater set of vandals than the telegraph and telephone linemen, at least those in the upper part of the State. They seem to work under the impression that, being in the employ of strong corporations, gives them the right to enter upon and destroy property belonging to private individuals without as much as "By your leave." Shade trees aligning the streets and roads are ruthlessly destroyed by these people, if they in any way interfere with the unsightly wires they wish to string. Limbs are chopped off from one side, leaving the tree out of balance. Frequently large limbs are cut off several feet from the trunk, leaving a bare stump which must ultimately decay and rot. and always damaging the tree so treated. Offences of this kind are committed by these corporations and their employes that neither, as private citizens, would ever dream of, but in their corporate capacity they seem to have the idea that they are greater than the people and have every right to do as they will with public property, to mutilate or destroy it, if it happens to be in the way of their lines. In many cases the trees so mutilated or destroyed represent years of care and labor. They are maintained at the expense of the property owner for the public benefit and to beautify the driveways along which they are planted, and while, perhaps, private interests in such cases must give way to public necessities, means could be found, with the consent of the owners, to trim up the shade trees in such a manner that the one could be accomplished without injury to the other. As it is now tree butchers seem to be chosen for the work whose aim would seem to be to do the work in the worst possible shape and with the greatest amount of injury to the trees.

* * *

MONEY IN WALNUTS.

There is one class of fruit growers from whom there appears to be no complaint of over-production or of under-demand, and they are the walnut growers. At the late fruit growers' convention, Mr. Kellogg, president of the Walnut Growers' Association, made the statement that all the growers were doing well and that the past season had been a very prosperous one for them. This, coming at a time when the prune men, the raisin men, the wine growers, and the dried and fresh fruit men, were unanimously complaining of their various difficulties in disposing of their crops, was very refreshing. It is unquestioned that walnuts are now paying as well or better than any other fruit product, and, except for the walnut blight, which is threatening the industry to some extent, there are few evils to be apprehended by the walnut growers. This fact is being realized largely in the northern counties and very much interest is being evinced in walnut growing in those sections which are at all adapted to it. The walnut will, undoubtedly, do well in Santa Cruz, San Mateo, Sonoma, Mendocino, and other of the northern coast counties, where proper conditions prevail. These conditions are a comparatively even temperature, not too hot, for hot weather is fatal to the best results of the walnut—a deep alluvial or warm sandy soil, well drained. These conditions can be found over a large area in the northern counties, and from present appearances they are likely to be taken advantage of by those who possess them.



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BY J. W. MILLS, ONTARIO, CAL.

PEACH MOTH AND ALFALFA.

Editor Cultivator:—The peach worm troubled my young peach trees terribly last year. What and how can I prevent it this year?

How can I best prepare a field for alfalfa seed? Some advocate deep plowing before the winter rains and shallow plowing just before sowing.

Do you advocate deep or shallow cultivation? Which retains moisture best?—Subscriber, Healdsburg.

The peach worm, the fellow that bores into the fruit during the summer, is best combated by spraying with lime, salt and sulphur just as the first blossoms open. This has been proven by experiments on a large scale and is now generally practiced by peach growers who are expecting trouble from this worm. The spray is made by boiling in about twenty or thirty gallons of water, 20 pounds of freshly slacked lime and 20 pounds of sublimed sulphur. The mixture should be boiled briskly for an hour and a half, then add 20 pounds of freshly slacked lime and 15 pounds of stock salt and boil for another half hour. Make the whole amount to sixty (60) gallons and spray while warm. It is important to get a heavy coating of the spray in all the cracks and crotches of the trees as there is where the worms come out in the greatest numbers.

It is a good plan to plow ground deeply before the winter rains come when contemplating planting alfalfa. On soil that does not pack and run together, cultivating about five inches deep will answer as well as plowing. The soil should be well firmed with a light roller before planting and if the seed is sown broadcast, the harrow should have the treeth slanted back so that the frame will press the soil down slightly. The point to keep in mind is that seed must have a firm bed so that the moisture will not pass off before germination takes place. If the soil is too loose, the air will pass through it too rapidly and dry out, and at the same time capillary action cannot take place rapidly enough to keep up the supply from below. The soil containing the seed must be kept close to the solid bed below in order to keep up the circulation of moisture from below. If the soil is so packed that circulation takes place very rapidly, there is danger of the ground drying out before the young plants are old enough to irrigate. On moist land there is not this element to contend with except where alkali is present in quantities.

Deep cultivation is better than shallow for retaining moisture. By shallow cultivation we mean three or four inches deep and by deep we mean five to six inches. Cultivation six inches deep is seldom done and it takes an especially made cultivator and a good team to do it. There are some orchardists who have shown splendid results by cultivating instead of plowing.

* * *

FRUITS FOR IMPERIAL.

Editor Cultivator:—Would you recommend raising varieties of grapes here which have tender skins, such as Feher Szagos and Emperor. How would the Smyrna fig, Sevillano olive and the Jordan almond do here.—Francis Heing, Imperial, Calif.

There is no possible way of telling how any of the fruits that you speak of will do at Imperial until an actual trial has been made. Pioneering is not all plain sailing and experimentation must always follow it before any definite knowledge may be gained in any kind of work, and especially in horticulture. The climatic conditions and the soil both vary in all sections and when it comes to dealing with the extremes of climate (you have one of them) the results are sure to be problematical. The comparatively old settlement of Coachella has similar conditions of climate but they are still at sea on the points you raise, simply because they have never tried those varieties.

Editor Cultivator:—How should American or "Eastern" grapes, such as Worden Agawam, etc., be pruned to secure the best results.—Subscriber.

Those grapes should be trained on a trellis to secure the best results. You will get a fair crop by pruning them short, and this is sometimes done. If the vines are not so situated as to be conveniently trained over a trellis, tie them up to a stake so that the vines resemble a heart in outline, the ends being tied so as to point down and all tied in a bunch to the stake, will be the proper manner.

* * *

DWARF FRUIT TREES FOR GARDEN.

Will you kindly inform me as to the advisability of planting dwarf fruit trees in the garden, as apples, peaches, pears, apricots, etc. Also where I can obtain such nursery stock of varieties best adapted to local conditions.—G. B., Upland.

Apples and pears are successfully grown on dwarf stocks, but we do not know of peaches and apricots being grown as dwarfs.

Dwarfs are desirable for a garden and bring fruit the second year from planting. Apples are dwarfed on Paradise and Ducine stock and we prefer the latter. Paradise roots are very susceptible to wooly aphis and the trees are very much dwarfed. Ducine makes a little larger tree. All kinds of apples do well on these as far as we know. Pears are dwarfed on quince, but there are but a limited number that seem to thrive as dwarfs. Among these are Duchess D'Angouleme, Easter Beurre, Winter Nellis, Colonel Wilder and Patrick Barry.

Standard trees do well trained against a wall or the side of a building. We prefer large growing trees where there is wall space enough to accommodate them. They may be trained flat against the wall and thus occupy very little space, where they will produce a large amount of fruit. We would place them on the north or east sides in preference to south or west for the reason that the reflection of heat from the sides during the hottest time of the day might burn the trees or fruit.

Dwarf trees may be furnished by any of the large nurserymen who advertise in the Cultivator.

* * *

SEEDLING PEACHES.

Editor Cultivator:—Is the Sabeach peach a seedling? Do we understand that a seedling peach is one that will come true to the seed every time?

When is the best time to transplant Lauristinus and Strawberry guavas?—E. L. P., Azusa.

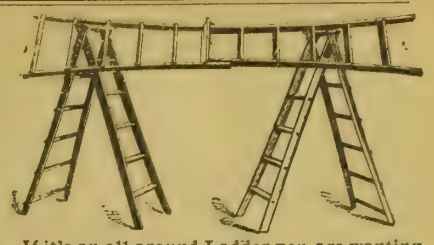
All new varieties of peaches or any kind of fruit are seedlings except in rare cases, where bud variation will make something quite different from what will grow on the balance of the tree. Some very valuable new varieties have been brought out from this source, but perhaps more than 99 per cent of our varieties are from seedlings. We do not know the history of the Sabeach peach, but we would be willing to bet a turnip against a leg of mutton that it is a seedling.

END OF THE OLIVE SEASON.

With the closing of the season the olive men report a marked improvement in the industry as a whole in Southern California, but they say that the small grower of olives has no show to make a profit on his crop. This has been complained of by several local ranchers and many olive trees are being cut down because the growers are dissatisfied with the revenue.

The cutting down of the olive trees is discouraged however, by the oil mill men, as they say the demand for olive oil is growing on the market, and it will be but a comparatively short time until all the output of the groves will be utilized by the mills. The olive oil industry as now conducted in the country is quite general. Besides the large growers who manufacture their own product there are between 150 and 200 growers in Southern California who produce one ton or more olives annually. Out of this number there are a few who operate small hand presses, which turn out thirty or forty gallons of oil each. One ton of olives will make about thirty gallons of oil. In the northern part of the State the same conditions obtain, in some counties, to a greater extent than in Southern California.

Some sections of Washington are coming into prominence as bean producers. The popular varieties are White Navy, Brown Mexican and Lima. The yield is 50 to 75 bushels to the acre.



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Editors, Agricultural Writers, Institute Orators, all talk and write about this new Oat. It yielded in Wis 156 bu., in Ohio 187 bu., in Mich. 231 bu., in Mo. 255 bu. and in N. D. 310 bu. per acre, during 1903, and in 1904 you can grow just as easily 300 bu. per acre of Salzer's National Oats, as we can. Your land is just as good, just as rich and you are just as good a farmer as we are. We hope you will try this Oat in 1904, and then sell same for seed to your neighbors at a fancy price, next fall.
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It does well on arid, dry lands, as also on rich farm lands, yielding from 30 to 80 bu. per acre.
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Greatest cereal food on earth. Yields 4 tons elegant straw hay and 80 bu. of grain, as rich as corn, oats and wheat ground together! Does well everywhere. Hanna Barley grows on dry, arid lands, yielding 60 bu. per acre.
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The Editor of the RURAL NEW YORKER says, "Salzer's Earliest Potato is the earliest out of 58 early sorts tried, and yields 464 bu. per acre, while Salzer's Early Wisconsin yielded for them 736 bu. per acre. Salzer's Potatoes for yield challenge the world."
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TEXAS FEVER.

A. W. Posey, Palms, who wrote of the Texas fever, some months ago, writes wishing more information. He says it has just come to their region, and he wisely urges that they stamp it out in its inception. He also says, what is very true, that it is an incurable disease. The mortality is very great when the disease takes it regular course.

The following facts can be relied on respecting this terrible malady. It is a disease similar to malaria in the human being. It is caused by a minute, one-celled animal, Pyrosoma bigemina, known as a sporozoan. These sporozoa are in all cattle's blood, if the cattle run on tick infested fields. Cattle that have ever had the disease are not in danger, even though the sporozoa are in their blood. The disease, when it attacks young calves, is light, and seldom fatal. It is always less dangerous when the weather is cool, and if the cattle are in good condition, and not very thick with ticks, even older cattle are safe.

2nd. The disease is carried by the cattle tick, Boophilus annulatus. There are eight different species of ticks that infest cattle, but this is the only one that carries this disease. This tick has a red or reddish brown head. This is really not the head, but is where the head would be if the tick had one.

3rd. While in general the disease must be spread by ticks that come from mother ticks that lived and fed on cattle that had once had the fever, and so have the animal germs in the blood, yet the disease can be conveyed as surely by simply conveying the blood, without the aid of the ticks. Thus inoculation is sure to give the disease. That is, the blood from an animal that has ever had the disease, has the fatal germs, and if injected into the circulation of an animal that has never had the disease, the animal will surely take the disease.

4th. The minute young seed ticks reach the cow from the ground. These give the disease to all susceptible cattle. They live on the cattle, grow fast, suck the blood of their hosts, and in a short time—only a few weeks—are full grown and fall to the ground. In two days they commence laying their eggs, which continues for three weeks, when 2000 may be laid by a single mother tick. These eggs soon hatch, when the now six-legged ticks cluster and wait for a new host, any of the cow kind, to come, that they may repeat the round of life and mischief. If the cow has never had the fever, especially if not young, she usually succumbs to the scourge.

* * *

Dangers.—There are two conditions that are ever a menace, serious and threatening, in case they exist. These are ticky cattle and ticky pastures. If there are no ticks, then there can be no scourge of Texas fever.

Safety.—If there are no ticks either on the cattle or in the pasture, if the cattle have had ticks on them from earliest calfhood, or if they have once had the disease then they are safe. It is possible that an occasional animal may have the fever the second time; in which case it would doubtless be mild. Pastures that have had no cattle in them for an entire year would be safe, as the ticks will all die in a year.

Suggestions.—Those at Palms, and all others interested, should procure at once and read carefully, the excellent experiment station bulletins from Missouri, Texas, Mississippi, Louisiana, Alabama and Florida.

Inoculation either by putting on the cattle a few seed ticks or, better, injecting into the circulation blood from an animal that has had the disease, will produce the fever in a mild form and render the animal ever after safe. This done on very young calves is very safe. In winter it is not likely to prove fatal. Pains should be taken that the cattle be free from the depleting effects of numerous ticks sucking their blood and vitality away. Texas and Missouri have done very excellent work in this line. At the Texas Station they inoculated 1251 cattle, and all had the fever and only 116 died. Usually nearly all would have died, as the fever is usually fatal.

Quarantining against ticky cattle, and keeping all cattle or all ticky cattle out of a pasture for a year will render the pastures tick free. The pastures could be used for horses or sheep, as the sporozan only works on the cattle. Ticks from horses cannot convey the fever.

Thorough greasing of cattle will kill the ticks. I think crude distillate would do, or we could use kerosene emulsion. I believe that either would kill all the ticks, and I do not think that either would harm the cattle. I think that Mr. P. is quite correct in the opinion that pains should be taken to stamp out the ticks and disease. Thousands of dollars have been sacrificed to this disease in parts of Southern California. In the Southern States, where the ticks are so widely spread, inoculation may wisely first claim attention. At Palms eradication of ticks may be the wiser policy.

* * *

ASPARAGUS SCALE.

William Reid, Pomona, asks me for name and remedy for a scale that works on his "asparagus fern." This is Hemichionaspis (Chionaspis))aspidistrae. It works on Aspidistra, ferns, acacias, pepper trees, orange, etc. The scale is nearly white, the female pear-shaped, and the male long and slim and rigid. We find that hand-work washing is a good way to keep them down. I presume that a spray of distillate put on with a hand atomizer would kill the young scale and do no injury to the plants. It should be very dilute and constantly stirred, as it is applied. I believe we are going to find a way to treat our house plants and our garden plants with distillate that will help very decidedly in such cases.

* * *

THE LINNET.

A. L. H., San Bernardino, wishes to have a description of the linnet, and wishes to know how the bird law may be enforced. The linnet is a sparrow and is easily told, as the male has a red head. They are thick about the house, especially if it is vine-clad. They take all of my apricots. To proceed against any one who has violated the bird law, we must first have sure evidence that the person is guilty, and then swear out a complaint before a justice, when, as I understand, it becomes the duty of the District Attorney to proceed against the offender. As it is a criminal case, fine and imprisonment may be the verdict.

* * *

ASPARAGUS RUST.

W. S. Corwin, Highlands, asks how one can treat asparagus seeds to make it safe to plant them. As I said a few weeks ago, in the Cultivator, the best germicide is a solution of copper sulphate, or blue stone, as it is called. Soaking the seed in this will promote the germination, and will at the same time, kill the spores of rust that may be on them. This is the thing to do in case we suspect disease by rust or fungi.

Yet were I in the Imperial or Coachella regions, I would be very wary about getting seed of asparagus from diseased plants. There is no doubt but that these places have a rich field for this delicious vegetable. It is so savory, and so necessary as a spring relish, and the fatal rust is so widespread, that any region that can produce it with success, has a great vantage ground. Imperial and Coachella have a big promise in just this direction. I would take no risk were I in those regions. I know that Prof. Smith says that owing to the dry climate of these regions they have little to fear. Very likely he is true and correct, but where so much is at stake I would take no risk at all. I should also fear that the mycelium threads might have reached the seeds and not be reached by the blue stone solution, so that I should wish seed that had no possible chance of taint. So I urge Mr. Corwin to plant only seed from healthy plants.

* * *

STRAWBERRRY INSECTS.

President Leroy Anderson sends me some strawberry plants that have been injured by insects. They are from Captain M. F. Taylor, of San Simson, Calif. The Captain reports great injury. I find nothing on the roots but Millipedes. These thousand legged worms, as they are called, are quite numerous, and are plant feeders, yet I much doubt if they are the cause of the damage. I have known this same one to be so much worse, that I believe that they have not done the mischief. I fear that the real cause is Fuller's Rose beetle, the great pest which I described in the Cultivator some weeks ago. If so, these would be found only in the summer, and Captain T. will have an eye out next June, when I fear he will find them to be the real cause of his trouble. For remedies, I refer him and others to the article just referred to.

* * *

DIP FOR POSTS.

Fred R. B., Fresno, asks for a dip that will secure posts against decay when set in the ground. Eucalyptus will not decay quickly. Charring the posts will delay rot. Petroleum or, better, coal tar, will prove even better to prevent decay. There are other chemical substances that are more effective, but the expense bars their use.

* * *

BLACK SCALE ON PEACH.

M. J. Howard, Hynes, Calif., has a peach orchard which, he says, has been very healthy and profitable, but of late it has suffered much from the black scale. He has treated it with the lime, salt and sulphur wash and with distillate emulsion, he says, and with no great good. He wishes counsel. I would urge that he call his able horticulture inspector, Mr. F. Maskew, of Long Beach. He would give him the very best advice. I believe distillate spray would be the cure, but it must be used at the right time. Mr. Maskew would give this after inspection. I find that the work of the Scutellista has been so efficient in my trees that I would advise any that are suffering from the black scale to send to the Horticultural Commissioners and get some of the little parasites, and I believe that there will soon be no occasion to treat the scale at all.

* * *

DESTROYING SQUIRRELS.

Delmo W. Muncio, Sis Quoc, Calif., is troubled with squirrels, and wishes a cure. Bisulphide of carbon turned on to a cloth and thrown into the hole when the earth is wet is effective. The hole must be closely filled at once. It will be well for Mr. S. to send to Dr. E. W. Hilgard, Berkeley, for the receipt for squirrel poison recommended by him.

* * *

FERTILIZING BLACK AND LOGAN BERRIES.

K. G. Hommel, Pasadena, wishes to know the best fertilizer to put on his blackberries and Logan berries. I should advise stable fertilizer from some feed stable where the stock had been well fed. Good stable fertilizer will serve excellently well as it will furnish the much needed humus. It might also be wise to apply a little dried blood or treated bone meal with it.

* * *

Editor Cultivator: Please tell me in next issue of your paper, if you consider Santa Rosa, Cal., a good location for one who desires to grow apples and cherries for commercial purposes? If not, why not? and what would be the pests one would have to contend with? Does codling moth live in that climate?—C. W. M., Riverside.

Santa Rosa is the county seat of Sonoma county, a well built, thrifty town, surrounded by an excellent country, devoted to agriculture and fruit growing. Sonoma is one of the best apple sections in the State, and both this fruit and cherries are very extensively grown for commercial purposes. Sonoma is especially blessed in soil and climate for she has a great variety of both and short crops are almost unknown there. Not only do the apple and cherry do well here, but almost every other variety of fruit, including oranges and lemons, which are grown on a commercial scale in this county. In regard to insect and other pests, she has all that can be found in other sections, and the codling moth thrives here and has to be fought as energetically as elsewhere.

FARMERS' INSTITUTES.

The spring sessions of Farmers' Institutes will be held as follows: Anaheim, Thursday and Friday, March 31, April 1; Monrovia, Friday and Saturday, April 1-2; Elsinore, Monday and Tuesday, April 4-5; Hemet, Wednesday and Thursday, April 6-7; Bloomington, Friday and Saturday, April 8-9; Cucamonga, Monday and Tuesday, April 11-12.

Mrs. Minnie E. Sherman, of Fresno, Prof. C. F. Baker, and Mr. Fred Maskew will aid at these meetings. It is also hoped to have a good speaker on poultry culture. These will be the concluding institutes of the year.—A. J. Cook, Conductor of Farmers' Institutes for Southern California.

Choice Fruit
and more of it is the aim of every orange grower.
Nitrate of Soda
(The Standard Ammoniate)
as a Top Dressing in the orange grove will bring young trees into bearing a year earlier and put them into condition to yield larger crops of perfect oranges.
My Bulletin on Orange Growing contains the best information obtainable from actual Experiment Station trials. It is a most valuable addition to the library of any horticulturist. It is free. Send your name and address on Post card.
William S. Myers, Director
12 John St., New York

CITRUS TREES

All the leading varieties. This stock is the cleanest and finest grown. Can fill any sized order and will guarantee satisfaction in price and quality. Write for further information.

W. G. HALL - GLENDORA, CAL.

Strike While the Iron is Hot

And plant your land to lemon and orange trees while the rainy season is on, because then the trees are sure to get a strong foothold and become well established, thus insuring a strong and healthy growth during the spring and summer season.

Good Trees Grow and Bear Fruit

And that is the only kind we have to offer. Being specialists in the growing of citrus trees exclusively, and the largest producers in the world, we believe that we are in a position to merit your consideration, and that we can give you better service in the matter of quality of stock as well as prices, than you will find elsewhere. If in want of citrus trees, let us hear from you.

A Good Thing for the Asking

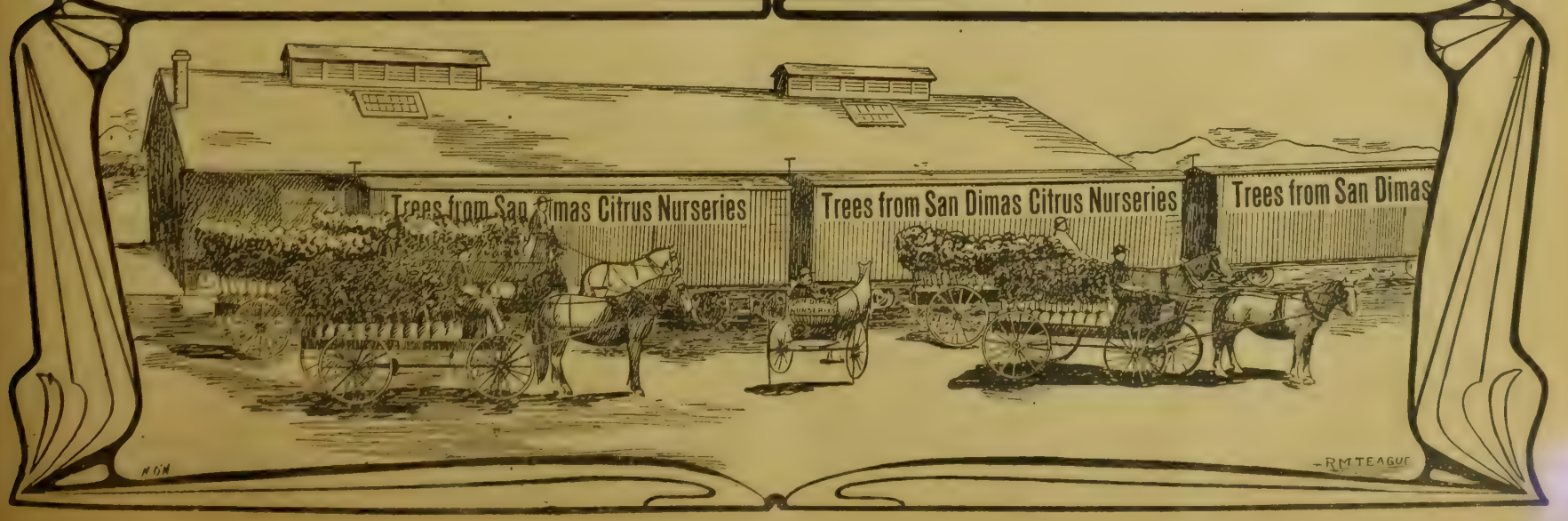
Having made citrus culture a life study, we have embodied our ideas and experiences in a booklet called "The Yeas and Nays of Citrus Culture," a copy of which will be sent to you if you mention this advertisement. May we not hear from you today? Correspondence a pleasure.

The San Dimas Citrus Nurseries

R. M. TEAGUE **SAN DIMAS, CAL., U. S. A.**

Our Business is a Growing One, and Yours will be If you Plant Trees Grown by Us....

Our Trees go and Grow all Over the World where Citrus Fruits Flourish. Send for our Monograph; it 's free. Write today.



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Well rooted, thrifty plants, grown on virgin soil, layered by hand, fertilized when runners started. L. H. EDMISTON, Riverside, Cal.

CUTHBERT RASPBERRY
LADY THOMPSON STRAWBERRY
Gardena, the garden for berries, grows the thrifitiest plants. Plant now.
O. C. Olds - Gardena, Calif.

Seed Potatoes
Early Bovee, first grade, 2½c per lb.; second grade, 2c per lb.; Burpee's Great Divide, 5c per lb.; Burpee's Extra Early, 5c per lb; Hammond's Admiral Dewey, 5c per lb.; Hammond's Extra Early Sensation, 25c per lb. Do not delay, send orders now for spring planting.
W. J. Broad Glendora, Cal.

Redlands Nurseries
Let us fill your orders for
—DECIDUOUS STOCK—
There is none better and our prices are the lowest. All home grown and only handled once
—OUR CITRUS TREES—
when seen on your neighbor's ranch, will make you sorry that you did not buy of us. Our prices are right and the trees will grow. Write us today for prices.
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E. I. Martin, Prop. Redlands, Calif.

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Extra select, home grown, all sizes
Fruit, shade Trees, Plants, Seeds, Bulbs
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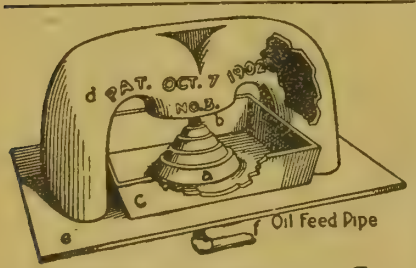
Orange Trees
First-class, Stocky Navels and Valencias. Headed at four feet.
Geo. G. Mathews, Azusa, Cal.



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A Perfect System of Heating with Distillate Oils. Made in sizes for Stoves, Ranges, Bake Ovens, Furnaces and Boilers. Send for circular
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Vernon Nursery
4524 CENTRAL AVE.,
LOS ANGELES, CAL.
Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.
We still have a few of the finest two-year-old walnut trees ever grown in California.
You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.
A. YARNELL,
PROPRIETOR
4524 CENTRAL AVENUE
LOS ANGELES, CAL.

Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

HORTICULTURE.

Frank Lobengeir, of Pomono, has sold his ten-acre orange orchard to Mrs. Jones, of Chicago, for $25,000.

Orchardists and fruit packers of Santa Clara, San Mateo, Santa Cruz and Monterey counties have petitioned the Weather Bureau for the establishment of a signal station at some central point in the territory named.

The California Fruit Canners' Association has sent to Watsonvile quantities of pea seed to be planted as a test of soil and conditions there for a prospective cannery site. The seed will be planted part on March 1st and the balance May 1st.

Permanent officers of the Fresno Canning Association have been chosen, as follows: R. K. Madsen, of Parlier, president; F. M. Burnham, vice-president; E. M. Bishop, secretary; these officers, with Wm. Tardiff and J. Q. Anderson, compose the board of directors. The Minnewawa cannery has been leased for the coming season. The membership fee is $1 and shares cost $200 each, $50 cash and notes for balance. No member allowed more than one share.

MISCELLANEOUS.

The Portland, Ore., woolen mills were destroyed by fire last week, loss estimated at $180,000. The mill employed about 150 hands.

The Ventura Free Press states that the grain farmers of the Las Posas and Springville valleys are very active now in the planting of barley.

Berry growers in Tropico and Glendale have organized an association to secure uniform grade of berries, fruits and vegetables, and a uniform price.

There is growing around Laredo, Tex., over 500 acres of Bermuda onions. The seed germinated well this season and the prospects for a big crop are good.

The steam plows on the 5000-acre ranch of Patterson, near Oxnard, are at work and planting is going on. The ranch will be equally divided between beets and beans.

The government has bought from a Portland, Oregon, firm 1250 tons of hay and 4320 tons of oats, which will be shipped during February to the Phillippine Islands.

The Canadian Pacific Railway has given a contract for the construction of an irrigation canal twenty miles long, near Calgary, B. C. The cost is to be one million dollars.

Workmen in digging for a foundation in Oakland unearthed a can containing $1500 in $20 gold pieces. The money had been planted a long time, judging from the looks of the can.

The Victor limestone quarry has already furnished the Oxnard sugar factory with 4000 tons of limestone and the Chino factory with 5000 tons. The stone is used in the clarifying process.

"Tales of the Pioneer Mothers," is the title of a new work by Mrs. Bertha M. Rice, a well-known San Francisco authoress. Doubtless the book will prove highly interesting to old and new citizens of California.

Fresno will observe its first arbor day on March 13th. Committees are at work raising a fund of $250 to spend for trees. Eucalyptus and acacia trees seem to be the species most favored at this time for planting.

The Japanese government has been for some time buying large quantities of flour from the Stockton and other California mills. Enough breadstuffs have been shipped to Japan out of the Golden Gate to feed her army and navy for a year.

A new variety of potatoes brought $750 a pound in England recently. The spuds that brought this extraordinary price are of a new variety and only a few were on sale. One potato sold for seventy pounds sterling. Another sold for $1500 a ton.

WANTED—Good man on farm at Imperial. Must be of good habits and first-class milker. Address Box 104, Imperial, San Diego Co., Cal.

The office and yards of the Loma Priesta Company's planing mill at Santa Cruz burned on Saturady, causing a loss of $50,000.

Millionaire timber land owners of British Columbia are fighting the timber tax of the government, which was recently put into effect. The law provides for a tax of from one to five dollars a thousand on all lumber exported to the United States.

The drillers for gas at Ventura struck another flow of gas at the depth of ninety feet last week. It is now stated that Ventura has a daily flow of gas amounting to 40,000 cubic feet, or more than double the amount necessary to supply that city.

The Ukiah Times speaks of a generous fall of snow in that city and Mendoceno county, and in the same issue brags about the fine oranges at Cloverdale, in the county. For a fact, our northern neighbors have a variety of conditions in climate and fruits.

W. W. Perkins, of McPherson, has shipped to Rochester, N. Y., his fourth carload of rose plants for this season, making a total of over 250,000 plants sent out. He is making preparations to ship half a million plants next year to supply the growing market for California roses.

The tomato growers of New Jersey are circulating petitions to be signed which demand "pay on delivery" from the canners and commission men. Heretofore the growers have had to wait for their pay till December and, as several of the large firms failed last season, the tomato men lost heavily. Hence the move.

The Fresno Democrat announces that the directors of the raisin growers' association have reconsidered their action in donating 100 tons of seeded raisins for advertising purposes at the St. Louis fair. Thus the pet scheme of Fresno county for the distribution of 800,000 quarter-pound cartons has fallen to the ground.

The interested ones in the Danish Creamery Association elected as directors: H. Graff, H. Madsen, E. Larsen, Robert Rhea and P. C. Jacobsen. The year was reported as a remarkably good one, the business having been double that of 1902 and the price of butter averaged 28 cents per pound. The association paid out during the year to its members $130,000, the limit of the capacity of the plant.—Fresno Democrat.

The dispatches state that Herbert Myrick, of the Orange Judd Co., is now investigating land in Mexico and Texas with a view of locating three or four thousand farmers, if good cheap land in a proper locality can be found. Mr. Myrick says that all the good, cheap land in the British Canadian possessions has been settled on, and that the chances for success by the poor man in the Northwest are no longer good.

The Ladd estate at Portland, Oregon, has two Jersey cows at St. Louis on probation for the selection of the 25 cows of that breed for the dairy demonstration opening in May at the Louisiana Purchase Exposition. This couplet of Jerseys are Zaza of Menlo 147312 and Oonan 23d of Hood farm 163228. At present there are 38 Jerseys being tested, divided as follows: 11 Eastern cows; 17 Western; 10 Southern. They are being handled and cared for by four very competent dairymen.

The Department of the Interior has issued an order throwing open the forest reserves of this State to as many cattle as may be kept on them without injury to the properties. The allowance to each reserve is as follows: North division Sierra reserve, 15,000; south division Sierra reserve, 30,000; Stanislaus reserve, 8000; Lake Tahoe, 1600; east division Pine mountain and Zaca Lake, 6000; west division of Pine mountain and Zaca lake, 12,000; Santa Ynez reserve, 650, San Bernardino, 2500; San Gabriel, 350; San Jacinto, 1700; Trabuco Canyon, 500.

San Francisco Suburban Property
Homestead lots and acreage land at reasonable price. Near city, some of it bounding city on the south.
R. S. THORNTON,
416 Hearst Bldg, San Francisco or Colma, Cal.

EXPERT PRUNER would like work by the month or care of a ranch. Would build house if suitable locality offers. Apply to Cultivator Office.
C. J. BARCLAY, Ontario, Cal.

BERRY PLANTS
Gray's Gardena Dewberries. These berries are in the lead. Very early, best quality, heaviest bearers and good shippers.
For descriptive list address
W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

200,000 Strawberry PLANTS
Arizona Everbearing from Eastern Plants. Guaranteed to be first-class in every respect, not mixed with any other kind, at $2 50 per thousand, if ordered within ten days.
G. W. MULLENDORE Covina, Cal.

Strawberry and Dewberry Plants
Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.
A. E. Harrington Montebello, Cal.

150,000
Arizona Everbearing Strawberries
PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.
F. P. Baldosser, Covina

ONE MILLION IMPROVED
Gardena Dewberry
PLANTS FOR SALE
A. R. RIDEOUT Whittier, Cal.

Berry Plants
Lady Thompson, Brandywine, Excelsior. Guaranteed Eastern Stock. Also Gray's Dewberries and Blackberries. From this A1 stock in virgin soil you will get plants that will give you the highest results. Write today.
J. PARSONS - GARDENA, CAL.

Orange Trees
Navel, Thompson Improved and Valencia Orange Trees
Twenty thousand one and two years old
G. O. HESLOP LAMANDA, CAL.

CITRUS NURSERY STOCK
Valencias, Washington Navels and Eureka Lemon Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.
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2000 Dewberry Plants
TO TRADE
For Loganberry Plants
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Nature's best gift to impoverished soil.
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Citrus Seed Bed Stock

Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.

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SANTA ANA, CALIFORNIA

Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.

Residence, 202 Hermosa St.
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California Portland Cement

MADE AT COLTON

Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.

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California Portland Cement Co.,
401-403 TRUST BLDG.,
LOS ANGELES, CAL.

We have LAND PLASTER for sale

Eucalyptus Trees

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Are are specialty. We have an extra large stock of strictly first-class gum trees for sale this season, consisting of twelve varieties extra fine large plants. We are headquarters for

CITRUS SEED BED STOCK
ORANGE, POMELO AND TRIFOLIATA

the great frost resistant. Citrus and deciduous fruit trees, grape vines, ornamental trees and shrubbery, roses, palms and potted plants. Send for catalogue and information.

The J. W. Armstrong Nursery Co.

Suc. to the Brennan-Armstrong Nursery Co.
POMONA, CAL.

Going Out of Business

The old-established North Ontario Citrus Nursery Co. is going out of business and are offering their

CITRUS STOCK

Including Navels, Valencias, Tangerines, Mandarins, and all kinds of Lemons at greatly reduced prices. Our trees are the cheapest, cleanest and best in the market. Call or write for prices.

NORTH ONTARIO CITRUS NURSERY CO.

UPLANDS, CALIFORNIA

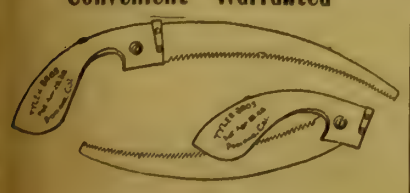
POMONA DEEP WELL PUMP

Long stroke, steady movement, runs smoothly, and is perfectly noiseless.

POMONA MFG. CO., POMONA
or Fairbanks, Morse & Co., Los Angeles

THE POCKET PRUNING SAW

Convenient—Warranted



Try It—If You Don't Like It, Return It.

IT JUST FITS THE HIP POCKET

The teeth of this saw are disposed at right angles to a straight line from the grip of the handle to the point of the blade, thus permitting the same ease of operation its full length. The peg or cant tooth makes it particularly adapted for green wood. It will not clog or gum. Recommended by all who appreciate a first-class pruning saw. Price $1.00.

DEALERS WANTED EVERYWHERE.
GEO. R. TYLER Pomona, Cal.

Coast News and Notes

CONTINUED

LIVE STOCK.

The Vallejo tannery has begun operations. It has a capacity of one hundred sides of leather per day.

The Russian government has ordered from Cudahy Packing Company, of Omaha, 1,000,000 pounds of beef to be shipped from San Francisco.

Anthrax has appeared among the cattle in Marin county, and is spreading rapidly. Quarantine and sanitary regulations will be enforced.—Ukiah Times.

Beautiful Belle, the greatest brood mare in the world, so claimed, died Saturday at Palo Alto. This mare gave to the turf more 2:30 class performers than any other mare that ever lived.

Exports of cattle, sheep and hogs for the year just ended, says the Arizona Cattleman, have been heavy, i. e., $37,000,000, against $24,000,000 in 1902, and $35,000,000 and $32,000,000 in 1901 and 1900 respectively.

The Jersey Breeders' Association of Southern California will hold its annual meeting at Buena Park, March 15. A large attendance is expected. This is one of the most interesting meetings of the year and brings out the breeders in full numbers.

That the disease commonly known as lumpy jaw can be communicated to human beings with fatal results was proven in the case of William Chase, a young Spokane county, Washington farmer, who died last week after nearly a year's illness of the disease.

The National Association of Wool Manufacturers estimate the number of sheep on hand in the United States at 39,284,000 as against 42,184,122, a year ago. There is on hand 287,450,000 pounds of wool, as against 316,341,032 pounds in 1903—a decrease of 28,891,-032 pounds.

Thos. Vestal, of Two Rocks, has 3000 laying hens. Twice a year he sprays his 100 poultry houses with phenolene. He puts the pheolene in a large barrel-force-spray-pump, which is loaded on a wagon. Then one man drives around while another man works the pump.

MISCELLANEOUS.

The richest ore ever found in Arizona has been discovered southwest of Kingman.

Ventura county will send a huge bean elk to the St. Louis Exposition as part of its exhibit.

Within four years the price of cod liver oil has increased from $21.00 per barrel to $115 to $120 per barrel.

All trunk railroads to the Pacific coast have granted a single fare rate to the Methodist General Conference, to be held in Los Angeles in May next.

A fire in the San Bernardino county hospital last week, destroyed about six thousand dollars' worth of property. There were about 80 inmates, but none were injured.

Gov. Pardee has appointed Col. J. B. Lauck, of Oakland, adjutant-general of the State, to succeed Gen. Geo. Stone, term expired. The new official's commission has been signed, and he will formally assume the duties of his office at once.

Pending an investigation of the feasibility of the establishment of the proposed Monterey forest reserve. The general land office has ordered the temporary withdrawal of 130,000 acres of land in the San Francisco land district.

Tourists are arriving in heavy trainloads. Large excursions are due here within the next few days, and the hotels will soon take on the gala appearance which marks the height of the winter season.—Santa Barbara Exchange.

The recent $75,000 issue of the Whittier school bonds has been approved by the supervisors and ordered sold this week. It is considered probable that the State will purchase them, as it did those of the Pasadena and Pomona districts.

Dolgeville is assuming the airs of a manufacturing center. The Talerday Company has acquired a large tract of land near the Dolge plant and will begin at once the erection of buildings that will be used for making pipe and steel specialties.

Figures published by the officials of the San Francisco Mint show that in 1902 California produced gold valued at $17,197,962, the Klondike $14,743,-455, and Alaska $8,283,408. In 1903 the California production was $16,535,-521, the Klondike $12,240,425, and Alaska $6,921,157.

Instead of the customary formula "in the name of God, amen," the will of Jonathan Coykendall, at San Jose, filed Monday of this week, begins, "In the name of justice and common sense." Coykendall, who died a few days ago, was one of the most prominent business men in the county.

The combined resources of the nine city and seventy-three interior savings banks in California, January 23, 1904, were $283,942,865, and their aggregate deposits on that date were $220,029,676. Since September 8, 1903, these aggregate resources have increased $51,825,680 and their aggregate deposits have increased $7,161,758.

The Pasadena Farmers' Club held its monthly meeting at Recital Hall on the 25th. Music, an address on Fruit in Mexico, Cuba and Porto Rico by Frank Disbrow, Artificial Pollenization, by W. A. Butterworth, New Methods of Shipping Lemons, by T. J. Ashby, made up the program.

Tom Reynolds, nephew of Postmaster J. E. Reynolds, at Redding, opened over eight hundred letters and extracted what coin and paper money he found in them, during the past three months, while employed as utility clerk in the Redding postoffice. He made confession when arrested at the instance of Postoffice Inspector Coyne.

The steamer China arrived in San Francisco Sunday from the Orient, bringing one of the richest cargoes landed here for many months. The notable shipments consisted of 787 cases of opium from Macoa, valued at about $400,000, duty paid; 1935 bales of raw silk, valued at $1,355,000, and a consignment of Japanese gold yen, worth $1,075,000.

The Riverside Chamber of Commerce is taking a lively interest in the Lewis and Clarke Centennial to be held at Portland, Or., in 1905. The chamber has telegraphed to Senators Bard and Perkins and all the California Congressmen, urging them to use all legitimate influence to make Congress pass favorably upon the $1,775,-000 appropriation asked.

The supervisors of Modoc county have adopted the plan of publicity to prevent tax dodging. They decided to publish the full assessment of every taxpayer to be made this year. Every tax payer in the county will thus know how his neighbor is assessed and will be expected, as a matter of self-protection and in the interest of an honest assessment, to report all ommissions of the assessor to the county board of equalization. The plan is a new one and the results will be watched with considerable interest.—Ukiah Times.

The Board of Bank Commissioners this week issued a statement of the condition of savings banks in the interior of California, as shown by their books at the close of business on January 23, 1904. These banks now number seventy-three, or fourteen more than existed on September 8, 1903. The resources of the interior savings institutions now aggregate $117,476,-090, showing the large increase of $48,-862,584, since last Septmber; and their deposits, now amounting to $65,122,-974, have increased $3,676,268 in the same time.

Wagner's Nursery

PHONE SUBURBAN 108 PASADENA, CAL.

Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

SEED BED STOCK

Sweet Orange, Sour Orange, Pomelo and Citrus Trifoliata, also Valencia and Navel Buds. Stock clean, thrifty and first-class in every respect. Write us and find out.

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One-year Buds on two-year roots.

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C. H. SESSIONS, ASSOCIATE EDITOR

KEEPING CREAM TOO LONG.

Editor Cultivator: Would you kindly tell me through the columns of the Cultivator the cause of butter becoming rancid in three or four days after churning. I am very careful with the milk utensils, washing, scalding and airing thoroughly. The milk always keeps well even in the hottest weather. The cow is apparently in excellent health, and the milk looks and tastes as usual. We feed alfalfa hay, pumpkins and bran. The cow has been fresh since the last of October, and the condition spoken of has been since then. Your opinion in this matter would be greatly appreciated by, Subscriber.

It is possible "Subscriber" is keeping the cream too long before churning. It should not be held longer than 36 hours. We would suggest the milk be kept in an entirely new location, after thoroughly washing and scalding all the utensils coming in contact with the milk, and especially soaking and washing the churn with a solution of concentrated lye or caustic soda to make sure there is no obnoxious germ hidden away. It is possible extra precautions will stop all trouble. We do not think the trouble is with the cow or the feed.

LIST OF TESTS ACCEPTED FOR RECORD BY AMERICAN JERSEY CATTLE CLUB.

Private Butter Tests.

Brenda's J. B. Clover 107676—Sire Benda's John Bull 20093; dam, Comite of Briarcliffe 74250; butter, 15 lbs., 3 oz;. milk, 239 lbs., 8 oz. Test made from June 7 to 13, 1903; age, 7 yrs., 10 mos.; actual weight, 915 lbs.; fed 8 qts. mixed feed, 2 qts. gluten, 2 qts. corn meal and 30 lbs. ensilage, daily—good hill pasture. Property of Philip W. Moen, Worcester, Mass.

Clover's Regina 146193—Sire, Woodstock Stoke Pogis 25620; dam, Max Clover 108991. Test made from Jan. 26 to Feb. 1, 1902; age, 6 yrs., 4 mos.; actual weight, 860 lbs.; fed 4 qts. at feed, 6 qts. mixed feed, 2 qts. gluten, 1 qt. oil meal, 1 pk. carrots and 30 lbs. ensilage, daily; hay ad lib. Property of Philip W. Moen, Worcester, Mass.

Earl's Madge 146212—Sire, L. D.'s Earl 42114; dam, Drosky 127382. Butter, 14 lbs., 3 oz.; milk, 277 lbs., 10 oz. Test made from May 19 to 25, 1903; age, 5 yrs., 4 mos.; actual weight, 930 lbs.; fed 8 qts. mixed feed, 2 qts. gluten, 2 qts. oil meal, 1 pk. mangels and 30 lbs. ensilage daily; hay ad lib.; hill pasture. Property of Philip W. Moen, Worcester, Mass.

Joy's Dolly 2d 153636—Sire, Prince Yokun 46224; dam, Joy's Dolly 153635. Butter, 14 lbs., 5 oz.; milk, 252 lbs., 2 oz. Test made from Nov. 24 to 30, 1903; age, 5 yrs, 4 mos.; estimated weight, 900 lbs.; fed 8 lbs. wheat bran, 2 lbs. cotton seed meal, 3 lbs. corn meal, about 15 lbs. hay, and 40 lbs. corn ensilage, daily. Property of Harry S. Dewey, Great Barrington, Mass.

Landseer's Garfielda 121131.—Sire, Landseer's Columbus 30839; dam, Garfield's Pricess 62544. Butter, 15 lbs., 10 oz., milk, 208 lbs., 6 oz. Test made from Mar. 8 to 14, 1903; age, 6 yrs., 9 mos.; actual weight, 817 lbs.; fed 8 qts. mixed feed, 2 qts. gluten, 2 qts. corn meal, 2 qts. oil meal, 1 pk. mangels and 30 lbs. ensilage daily; hay ad lib. Property of Philip W. Moen, Worcester, Mass.

Pomfret Princess 119079.—Sire, Scion of St. Lambert Jr. 26719; dam, Little Trixie 177049. Butter, 15 lbs., 4 oz.; milk, 251 lbs., 1 oz. Test made from Jan. 18 to 24, 1903; age, 6 yrs., 11 mons.; actual weight, 927 lbs.; fed 8 qts. mixed feed, 2 qts. gluten meal, 2 qts. corn meal, 1 pk. mangels, and 30 lbs. ensilage, daily; hay at lib. Property of Philip W. Moen, Worcester, Mass.

Queen Laura Belle 143848.—Sire, King John of Woodstock 47869; dam, Consul's Belle 2d 122560. Butter, 15 lbs., 9 oz.; milk, 259 lbs., 12 oz. Test made from Feb. 8 to 14, 1903; age, 4 yrs; actual weight, 837 lbs.; fed 8 qts. mixed feed, 2 qts. gluten, 2 qts. corn meal, 2 qts. oil meal, 1 pk. mangels, and 30 lbs. ensilage, daily; hay ad lib. Property of Philip W. Moen, Worcester, Mass.

FEEDING DAIRY COWS.

At a recent meeting of the Minnesota Dairymen's Association, Assistant State Dairy Commissioner A. W. Trow, in the course of a talk on the feeds and methods of feeding dairy cows, told the dairymen that the actual secret of dairying is to be found in two things—cheap feeds and correct feeding. Every dairyman is confronted by the question of what to feed, and not only what to feed, but how much to feed, how to feed and when to feed. The answer to these questions may differ somewhat in different localities; however, the general principles of feeding are the same wherever feed is grown and cows are fed.

THE COW STABLE AND YARD.

Cows ought to be milked in a comfortable, clean, thoroughly drained and well lighted place. Ventilation is best secured by some well constructed and easily operated device rather than by loose boards or accidental holes in a window. The walls and ceiling of the stable may be purified by a coat of whitewash which can be effectually applied with a spray pump. This ought to be used several times in a year. Some cow stables are covered with straw or old hay placed on boards with large cracks between them. No amount of whitewash will keep such a ceiling in a sanitary condition. Chaff and loose straw dropping through the cracks are a constant source of dust and dirt during milking. The floor above the cows ought to be as tight as the walls of the stable. The gutters and mangers of the cow stable should be cleaned daily and plaster or clean bedding spread over the floor. Cows should be tied or stalled in a humane way, made contented in every particular and liberally fed. No loud talking should be permitted during milking

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When a man owes you money, and you want to get it badly, you simply send around a good collector, and if he is a good collector, and the man that owes you is worth it, he'll get it.

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Breeders of Prize-Winning Reg. Berkshires
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THOROUGHBRED BERKSHIRE HOGS
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Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

Registered Berkshire HOGS
Young stock from prize winners for sale at reasonable prices
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Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
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Write for Catalogue

REGISTERED SHORTHORNS--MILK STRAIN

Orrick, No. 183,987
Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
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Used by 80 per cent of vaccinating stockmen in California. Early vaccination is good insurance. Write for description of our Black Leg Pills and Injector for using them. They are safer and easier used than either the string or powder vaccine.
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If your druggist does not stock our vaccines, order direct from us, we pay all charges.

and anything that will excite the cows must be avoided. Driving them from pasture in a hurry or chasing the cows with dogs will diminish the quantity and quality of the milk.—Professor E. H. Farrington, University of Wisconsin.

PALM GLEN JERSEY HERD.

A. B. White, one of the veteran Jersey breeders of Southern California, has disposed of his Echo Glen place, in Los Angeles, and has acquired a nice property at Palms, Los Angeles county, where he has moved to and is now engaged getting together his herd of registered Jerseys. Mr. White has brought from the east at different times twenty-four head of Jerseys in crates, most of which have been sold to other Jersey breeders. Following are some of Mr. Whites notable importations: Recoria 103925, Trumps Paradise 107962, Brown Bessie's Nora 112398, Woodstock Lily 125640, Garfield's Loretta 126864, Garfield's Duchess 127116, Rhyme 125266, Exiles Gladys Pogis 129597, Melia Ann's Juliet 147364, Melia Victor Sally 148,-100, Melia Ann's Inez 147784, Letta's Melia Ann 148215, Riotress Ida 163537, Hettie St. Lambert 164997, Melia's Ethel 164996, St. Lambert's Mary Ann C. 172565, St. Lambert's Lady Jane 177425, Owl's Golden Belle 177464, Golden King's Eloise 168276, Bessie's Upright Duke 43155, Marigold Holyoke 49594, Melia Ann's Lad 56907, King's Victor King of St. L. 62904, Imp. Sultane's Golden Fern 65304.

With his new herd (which he has named Palm Glen Jerseys), Mr. White will keep full records and each cow will be tested. Visitors will be welcomed at the new ranch, which is easily reached from Los Angeles on both S. P. and electric railway cars.

SIMPLE DAIRY RULES.

L. Engelmann of the Rockford Creamery company, North Yakima, Wash., has recently sent out the following rules to his patrons in a bulletin form:

First—Aim to have 28 to 42 per cent cream, First, rich cream will keep better, and, second, the creamery does not want any skim milk. You need all the skim milk for your hogs, calves, and chickens.

Second—In winter time it is harder to separate milk than in summer time; consequently be sure that your milk is warm enough and run your separator a little faster than usual.

Third—Be sure that your separator is level.

Fourth—Keep your separator clean and look especially for the skim milk tubes.

Fifth—Use only the best of oil and clean occasionally all gearing with petroleum.

There is a drawback connected with the separator, viz.: Farmers lose sight of the test of their herds. While we admit that some farmers will soon find out whether their cows are paying or not, there are others who lay the blame on the separator or to the creamery. Don't forget that you can't get a 40 per cent cream out of milk testing 3 per cent only. Perhaps the Rockford creamery may inaugurate a system by which they will test your cows and herds right along.

It is a wrong idea to believe that a cow testing 5 per cent is a good cow. The cow that gives the most butter fat within a year is the most profitable cow, no matter what her test is. Don't get the idea that a certain breed is the only and best breed. A good cow is a good cow, no matter to what breed she belongs. Select the breed you like the best and which is best adapted to your circumstances, and cows that milk ten or eleven months during the year; also they may have only a fair average test.

Important points that a dairyman must keep in mind are:

First—The bull is half the herd.

Second—Raise calves from your best cows.

Third—Sell all your poor cows.

Fourth—Keep your herd in a healthy condition.

Fifth—Feed and milk regularly.

Sixth—Feed only wholesome feed and look carefully to the drinking water.

Seventh—Poor feed and dirty water give tainted milk and impair the health of the cow.

Eighth—Keep your calves growing.

Ninth—Don't feed warm milk one day and cold the next.

Tenth—If you want a good dairy cow from your calf, get a good, long body with well sprung ribs on your calf.

Eleventh—The coat of an animal is a good indication of its condition.

Twelfth—Try to have your cows "come in" in the fall and winter. Winter dairying pays the best; besides you have more time to milk in winter than in summer.

Thirteenth—Try to raise all the hay for your herd.

Fourteenth—Make the most out of skim milk.

Fifteenth—Dairying and hog raising are a good combination.

If this bulletin should find the approval of our patrons and be a welcome guest in their homes we shall issue more bulletins, treating on feeding, breeding, care of milk and cream, etc.

Part of Echo Glen Jersey Head Before Dispersal.
New owners will recognize some of their purchases. Some of the new herd at Palm Glen trace thro' these dams.

Advertising Column for Members
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JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA
An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.
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FOR SALE OR EXCHANGE
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Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
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A handsome golden fawn yearling son of
SIGNORA BRUCE NO. 154547
Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address
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ST. LAMBERTS—viz., St. Lamberts Lady Jane, Kings Hettie of St. Lambert, St. Lamberts Mary Ann C. Melia Ann Hall, Melia's Easter Lily, Melia Ann's Ruie.
ISLAND-BRED JERSEYS—viz., Owl's Golden Belle, Golden King's Eloise. Imported Sultane's Golden Fern, service bull.
All are registered in A. J. C. C. records. More are on way to this herd.
A. B. WHITE
Los Angeles Co., Palms P. O., Cal.

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SONS OF **Imported Golden Marquis,** FOR SALE
ALSO
MELIA ANN'S LAD and a YOUNG TORMENTOR BULL
The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
James Houston - Duarte, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

FEEDING FOR EGGS.

In my last I gave my formula for feeding for eggs, for those who prefer mixing for themselves, I now add Geo. H. Croley's formula for mixed food: By weight, ten parts bran, six of middlings, seven ground or boiled oats, four coarse corn meal, four bloodmeal, two oil cake meal, two oyster shell flour, from five to fifteen parts steamed green stuff, one ounce condition powder to each forty pounds of dry weight. Three to five pounds of this, dry weight, will make the first feed for one hundred pullets. After ten days feed all of this they can possibly eat, but take away any remnants. The blood meal can be increased to six parts, gradually, and the condition powder to two, three or four ounces; use more blood meal and condition powder when everything becomes parched and dry in late summer, but make the change gradually. Steamed green stuff should be increased or diminished according to circumstances. It should be used in abundance when green food is scarce. Make all changes gradually. Fowls that are correctly bred and fed in this manner often lay an average of over two hundred eggs per year. Keep grit, granulated bone, charcoal and oyster shell always before the fowls. I have tried the formulas that Geo. H. Croley, of 508 Sacramento street, San Francisco, gives free, and have found them excellent; also have found him very satisfactory in his dealings. In feeding or forcing for eggs a careful watch should be kept over the appetites of the flock. The lack of appetite is most generally the sign of something being wrong with the flock or the individual hen, and this symptom must be attended to immediately, for it is the first indication of indigestion, and indigestion is fatal to egg production. Indigestion is followed by liver complaint, bowel complaints and death. So watch the appetites. Should lack of appetite occur in any hen, remove her from the flock and give her plenty of green food, in fact one of the best cures for indigestion is a diet of nothing but green food. However, if the flock shows loss of appetite, omit the mash, giving green food in its place and gradually return to the mash. Another point of importance is pure water. Water aids the digestion very much, in human beings as well as in fowls. Fowls being pushed for eggs require plenty of clean, pure water, for an egg contains a great deal of water, but water also is necessary to aid the digestion and if you will observe your hens you will be surprised at the great amount of water they will drink. It is close observation that is needed in this as in all the details of poultry keeping.

Another cause of indigestion, of which I claim lack of appetite is the first symptom, is lack of sharp grit. "There is plenty of gravel on my land," said a poultry keeper to me; "I use no grit." "Has your gravel sharp corners?" I asked. The grit should have three sharp corners in each bit, round stones or gravel with the edges worn smooth, is not sufficiently sharp to grind the food quickly enough for rapid egg production. Lack of grit produces indigestion, sour crop, crop bound, sleepiness and langour, liver complaint, with the symptoms of dark comb, finally the comb turning completely black. Lack of exercise and lack of grit are the causes of many failures.

* * *

"I failed in the chicken business in Denver," said a gentleman to me today, "but I think now I could succeed in California." I think he will if he has grit enough to try again, seeing and remembering where he failed last time. Continued and close observation is necessary, the feeding cannot be done mechanically; observation and experience will teach the amount if feed that is necessary, as no amount of advice from others will do.

* * *

FEEDING LITTLE CHICKS.

I have tried many ways, during many years, of feeding little chicks, and have finally decided that the "chick feed" sold by the poultry supply houses is the best feed for little chickens. It is or should be composed of a great variety of small seeds. This is their principal food whilst in the brooder, or till they are eight or ten weeks of age. I also give them plenty of green food, principally lettuce, of which they are very fond, and when they are two weeks old I give them for their last meal hard boiled eggs, onions and bread crumbs chopped fine, or Johnny cake. I give them all they will eat, sending them to bed with their little crops full. I gave full directions for the feeding and care of brooder chicks in the Cultivator of November 6th, so will not repeat it here, as I have a large number of letters asking questions about poultry.

* * *

ANSWERS TO QUESTIONS.

Editor Cultivator: In the Cultivator of February 5 you say that if any new subscribers wish it you will talk further upon breeding, etc. Please do. It seems to me that "in breeding" and "line breeding" are the same. I would like to know more upon the subject. Is there any book one can get to read up on the subject?—Mrs. A. L. S., San Bernardino, Calif.

I will soon write again about this most interesting subject. Several of the oldest poultry fanciers in the country have written articles on this, but I do not know any books about it.

* * *

Mush-room House.—I feel that you are a friend to all people that are interested in the poultry business. I am very much interested in that line, and am trying to get started in it. You wrote about a chicken house called a "Mush-room house" in the Cultivator; will you kindly tell how to build it for the benefit of all new readers and for my benefit.—Miss G. M., Monrovia.

In the Cultivator of April 25, 1903, I gave directions for making cheap, comfortable small houses. A "mush-room house" is a small house built, you might say, on stilts or legs. It can be made any size but I found three by four or six feet to be a convenient size.

First-Class Incubators and Brooders

The "PACIFIC" is the most sensible Egg Hatching Machine yet invented and does its work perfectly without a nurse or night-watch. Send 4c for my 70-page Catalog No. 2. It tells all about them and has other practical matter on poultry raising, poultry houses, etc,, which makes the book worth a $ to anyone who keeps a dozen fowls.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec. 16, '03.
Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yours truly,
Mrs. A. N. Zumwalt.

Address **Wm. B. Dean,**
929 E. 25th St. Los Angeles, Cal.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

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White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

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All Stock is Kept at Ranch, Phone: Sunset, State 82

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Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

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Yards closed Sundays. Send for illustrated circulors.

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SUCCESSOR TO MRS. A. BASLEY

500 CHICKS $4.00 — **Four Dollars** — $4.00 500 CHICKS

WORTH OF

Croley's Dry Mixed Chick Feed

Will carry 500 chicks safely over the Danger Line—all of them. Most economical. No cooking. No mess. Always ready to feed. Saves time. Saves labor. Saves millions of chicks.

25-lb. Sack for 125 Chicks $1.00 — 50-lb. Sack for 250 Chicks $2.00 — 100-lb. Sack for 500 Chicks $4.00

Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.

Geo. H. Croley, Poultry Supplies
508 SACRAMENTO ST., SAN FRANCISCO, CAL.

It is simply a small house without a floor, raised from four to ten inches from the ground, so that the air circulates freely under it, the hens roosing on perches above out of any draught. This gives them fresh air and hens in such a house rarely, if ever, take cold in this climate. I have three of these made of canvass, painted. The only danger is that vermin may get in, but a good terrier will prevent that.

* * *

Chicken Houses.—Editor Cultivator: Will you please let me know how a chicken house large enough for fifty chickens should be built.—Mrs. H. P. S., a subscriber, Watsonville.

Two small houses eight by twelve feet would be better than one house. The style must of course be according to your own taste and your pocketbook. In the Cultivator of April 25, 1903, I gave directions for building cheap houses. If you have mislaid that number send stamps to the office for another.

* * *

Trap Nests.—Editor Cultivator: I have been reading your articles in the California Cultivator, in which you have referred to the trap nests. As I have never seen a trap nest, if not asking too much will you tell me how to make them, and how by such means we are able to learn which hens are the best layers. Please answer in the California Cultivator.—J. P. Allison, Oak Creek, Oregon.

You will find a full description of how to make and use trap nests, with plans and pictures of them in the California Cultivator of January 15, 1904. If you have mislaid it send to the office for another.

* * *

Editor Cultivator: Will you kindly answer for me the following questions through the Cultivator and oblige a subscriber. How can I make cheap brooders and yet be as good and durable as costlier ones? How hot should I keep young ducks, geese, turkeys and chickens while in the brooder? As I am new in raising ducks, geese and turkeys I would like a little information on the subject. What is best to feed these fowls and what portion should I give?—Bell B., Hollister, Calif.

You will find full directions for feeding and caring for turkeys in the Cultivator of January 22, 1904. Full directions for feeding and caring for ducks and ducklings (the same will do for geese) in the Cultivator of March 10, 1903. Full directions for feeding and caring for brooder chicks in the Cultivator of November 6, 1903. I cannot rewrite these articles now, but if you have mislaid your copies send ten cents in stamps to the Cultivator office and tell the business manager what numbers you want; he will send them to you. If you want to raise chickens successfully you had better buy the best brooders on the market; cheap, home made brooders, as a rule prove more costly, from the loss of chicks, than the costlier ones. It is easy enough to hatch chicks, the difficulty is in raising them and the very best of brooders are none too good.

* * *

Editor Cultivator: Can hens be induced to lay in the trap nests described in Cultivator if allowed to run loose upon the farm. Please answer through the Cultivator.—R. F. G.

If they have ever learned to use the nests they prefer them to others, but do not know if yours could be trained to lay in any certain place after running loose and I suppose choosing their own nests anywhere.

Winner Buffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever held west of the Missouri.

WHITE LEGHORNS

Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."

Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from various egg producing strains of large eggs.

Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect. None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.

To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders, Selected not only for their Show qualities, but more essentially for their laying qualities of large eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize bullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and the first prize hen at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be fonnd.

"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger e. gs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Such strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.

W. W. HOWARD 3024 E. Main St. Los Angeles, Cal.

EGGS FOR SALE

From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.

H. S. THOMPSON, 126 E. Ave. 55, Los Angeles

WHY I BREED WYANDOTTES.

In writing this article I aim to make clear my reason for breeding Buff Wyandottes in preference to any other variety. Having handled nearly all popular varieties in the past twelve years, I feel that I am in a position to form a fairly good opinion of the different varieties.

Buff Wyandottes are persistent layers, especially in winter when eggs are in demand and bring the highest price. As a market fowl they cannot be excelled for quick growth, nice yellow skin, and sweet juicy meat. They are also free from dark pinfeathers, which is a great point in their favor when viewed from the standpoint of market poultry. They make good setters, and if left to raise a brood they are the best of mothers. As for beauty we do not know of anything more pleasing to the eye than a flock of Buff Wyandottes with their proud, blocky carriage, golden buff plumage, yellow legs, bright red face and comb. We believe anyone giving them a fair trial cannot help admiring them and acknowledging them to be the best general purpose fowl.

Your for more and better Buff Wyandottes.—A. F. Ackley.

More and better poultry shows were held the past season than ever before, which certainly indicates a steady and healthy growth in the interest shown in our standard fowls. Prices for poultry products in the markets were unusually high the past season, which will also stimulate a production of market poultry the coming season. Taken all in all, the prospects for the enterprising fancier and breeder was never better than at this time.

Louis S. Fletcher, of Anaheim, breeder of White Leghorns and Buff Orpingtons, announces that in Orpington stock he has some of the best strains in the country. It was the pleasure of the writer to visit the yards of J. R. Riddell recently and he certainly has magnificent stock. This is one of the strains which Mr. Fletcher is carrying.

California Cultivator: Enclosed you will find money order for $1 to pay my subscription to the Cultivator. If your paper contained nothing but the poultry department it would be well worth the subscription price.—C. M. Doxsee, Campbell, Cal.

The citizens of Anaheim are raising money for a city park.

ROUP and CHOLERA

Why do so many so called poultry medicines fail? Because they are made to sell at 100 per cent and not to cure. Palmer Poultry Powder sells on its merits. Roup or cholera is no barrier to the poultry raiser now. Before this famous remedy was tested and its value proven the hatchet was used for roup. Now Palmer's Roup Remedies are used and the fowls saved.

PALMERS POULTRY POWDERS

Trade Mark

You may think your fowls are healthy but do not lay. You buy egg producing food to force egg production. When your fowls are healthy nature fills the egg basket. Don't be deceived by cheap nostrums.

Palmer's Cholera Compound makes and keeps your hens healthy and vigorous and doubles the egg product. To try it is to buy it, to buy it is to make money.

PALMER POULTRY POWDER CO.,

Henry Albers, Dis. Agt. 302 E. Third St., Los Angeles, Cal.

50c and $1.00 Per Package

Albers' Black Minorcas

Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.

EGGS COCKERELS CIRCULAR

GEO. R. ALBERS

4849 Marmion Way Los Angeles, Cal.

Darling's High Protein

BEEF SCRAPS

Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.

Farmers and Stockmen

All Use

Prussian Stock Food

We Carry a Full and Complete Line

GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

Thoroughbred Bronze Turkeys

Gobblers and hens from finest pure-bred stock in the State. Eggs, 13 for $4.

[Not Cornish] are beyond criticism as to color and size. Pullets one year old weighing from 8 to 10 pounds. Eggs, 13 for $3.

My Indian Game Chickens

White Plymouth Rocks

Strains from eastern states. Eggs, 13 for $3

Three blocks south of S. P. station, and three blocks north of Monrovia Electric line on Rose avenue.

MRS. J. P. MOORE BOX 163 LAMANDA PARK, CAL.

EGGS FOR HATCHING

From grand laying strains Black Minorca and White Leghorn fowls. Pens headed by prize winners, $1 and $2 for setting of 15. One Plymouth Rock pen headed by bird bred at eastern experiment station from 250-egg strain, $2 per 13 eggs Stock for sale.

J. P. McDonough Geyserville, Cal.

INDIAN RUNNER DUCKS

—AND—

WHITE PLYMOUTH ROCKS

Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.

Foster's Fowlery, R.D. 2, Los Angeles

THE GOOD FOUR

I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to

EGGS, $1.50 PER SETTING

S. W. MORGAN, SUNNYSIDE, CAL

Eggs for Hatching

—FROM—

PURE BRED WHITE LEGHORNS

$1 00 per 13—$4.00 per 100

JACOB KREGER

Route 1 - Anaheim, Cal.

BARRED PLYMOUTH ROCKS

THOMPSON'S RINGLET STRAIN

Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10 00 per hundred.

A. A. Clapp - Alhambra, Cal.

Lake Avenue Poultry Yards

Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $4.00 per 100. Strong, healthy stock, prize winning strains. Visitors welcome.

757 N. LAKE AVE., PASADENA, CAL.

SAY! Send $1.50 for 13 eggs from choice prize-winning stock o

GOLDEN BUFF LEGHORNS

and

BLUE BARRED PLYMOUTH ROCKS

A few good cockerels and hens for sale. Winners at great San Francisco Show.

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Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

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The 1904 Catalogue B

Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address

Must Hatch Incubator Co., PETALUMA CAL.

EGGS FOR HATCHING

From good, strong, healthy

S. C. White and Brown Leghorns

$1.00 per 15, $4.00 per 100
Satisfaction guaranteed

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Knapp Strain
S. C. WHITE LEGHORNS

BEST egg variety known. Awarded **HIGHEST HONORS** at hundreds of America's leading shows. First and second **PRIZES** awarded to **COCKS** of this strain at the **GREAT PAN-AMERICAN EXPOSITION.** Bred for **HEAVY PRODUCTION** of **LARGE WHITE EGGS.** Some very choice pens for sale. Write for prices.

Eggs for settings, $2 per 15.
Incubator lots, $5 to $8 per 100.

Mountain View Poultry Yards

H. C. Chamberlain, Proprietor, Cotati, Cal.

FARM LABOR.

The question of farm labor has become a serious one in many parts of this great country. There is comparatively little inclination on the part of the men of today to engage in agricultural pursuits with a view of making the calling a permanent one. As a rule the life of the farmer is not an attractive one, to the young men, for many reasons. Exposure to the elements in all kinds of weather long hours, isolation, small wages, (as compared with the pay of men engaged in other occupations) scant recognition on the part of the employer. Infrequent opportunity for wholesome diversion or amusement, all contribute to a monotonous existence which palls on the life of young manhood. Under such conditions, the man of today cannot be expected to show as much sympathy for the life as did our forbears. In the earlier days, when the pioneers were engaged in hewing out farms from the forest and draining the prairies there was a comity of interest which begot a feeling of common fellowship and rendered the life more tolerable. Today farming operations have become specialized. The corn grower, the wheat raiser and the stockman have but little in common; and there are still further subdivisions, differing from the old methods, such as dairy farming, poultry farming, bee keeping and fruit raising. The farm hand has not as much to do on a diversified scale as formerly. By the present system he learns less than the farmer did of thirty years ago. The attractions of the village and the city are alluring to the farmer boy, as he gets glimpses of life in these centers of populaton, through the newspapers and in the recitals of tales and incidents as given by the itinerant laborer on the tramp. He is drawn away from the silent fields into the feverish maelstrom of the city, to study for a profession, to learn a trade, to clerk in a store, to work as a porter or drive a team, in the fancied idea that it is better than work on the farm. There are also many men born and bred in the city, who are by nature well fitted for farm life, who cannot be induced to leave their obscure side-streets, noisy, unclean and noisome, to go to the country. They choose to remain and enjoy (?) an unsanitary atmosphere, uncanny associations and to revel in the din and smoke of an artifical existence in preference to a simple life nearer to nature. The causes for all this shrinking from work are obvious. They simply lug in the methods pursued by the average farm owner. If a system was devised for making farm life more attractive and tolerable, there would not be such a dearth of willing workers. It should be taken into consideration that the remuneration for service does not wholly lie in the amount of money paid. Attention to the personal comfort of the men and women employed, a show of personal interest in their welfare and opportunities for wholesome pastimes would make a wonderful change in the farm service conditons of today. The system as practiced in many of the western States tends to the creation of the hobo. It would be as easy to make men instead of hobos by a change in the system.

We were in error in our account of Captain Mitchell's poultry plant when we said he had 250 laying S. C. W. Leghorns. It should have been 750. By the way, it may be in order to say that the Captain's "A Practical Poultry Plant," will be from the press next week. The first order with the cash is already in the Cultivator office. Send in the other orders.

Leader on the List.—Wm. B. Dean, manufacturer of the Pacific Incubator, located at 929 East Twenty-fifth street, Los Angeles, writes the Cultivator as follows: "Business has begun to come my way, and I am pleased to advise you that the Cultivator is the leader on my list thus far." Mr. Dean is not new to the incubator business by any means, as he was the founder of the Reliable Incubator and Brooder Co., and manager of the Des Moines Incubator for nine years.

THE SUCCESSFUL POULTRYMAN.

It pays to keep "pegging away." This was Lincoln's rule, and probably the only one he could have used in working out sucessfully the great problems that confronted him. How the wisdom of it is shown in every busy man's life. Things that look mountain high become as a gentle incline or a level plane if we fix our eyes on a task at hand and keep everlastingly at it.

The man who makes a success of the poultry business, like any other calling, must devote his entire time and attention to some definite end; whether it be the rearing of poultry for marketable purposes or the fancy. If he is thinking of entering the fields of the former, he should first acquire some knowledge pertaining to that branch of the business and not rush into it from some glowing account of high profits.

It takes a great deal of money to stock up a plant and put it on a paying basis from the start and unless one has plenty of the wherewithal he had better begin at the bottom and work up. I think that the way the majority of our successful ones have made their beginning; and, furthermore, I think one should become a specialist in whatever line he takes up; for herein lies the royal road to fame and fortune.

If you are thinking of becoming a fancier, you must first of all have a love for the business, a never tiring feeling to do all you can to procure such accommodations that will insure those that have taken hold of some good condition. Secondly, become a specialist.

Our most successful poultrymen are those that have taken hold of some good fowl that is best adapted to their needs and everlastingly sticking to it, never changing; but keeping the one breed through all the years he is in the business. Yet how many are there of us that can do this? It is a mighty hard thing for a person who loves fowls and would keep all breeds if it were possible.

The man who makes a specialty of a certain fowl can have more birds and better ones than the man of many breeds, because he has more time and space to devote to the one, while the man of many breeds must divide both. The specialist will be building up his strain while the other will be degenerating until the specialist's culls will be the equal of his best birds. It has been our experience in keeping four or five varieties that you receive as many orders for eggs and stock of one variety as from all the others, making it less profitable than if we had but the one.

If we hope to achieve the highest measure of success for ourselves we must put enthusiasm, energy born of

Cockerels

Barred Rocks, Black Langshans, Light Brahmas and Partridge Cochins. Over thirty of these choice birds at $2 and $3 each. Eggs, $1.50 per 14. **B. B. P. YDS., CARLSBAD, CAL.**

Barred Plymouth Rock Eggs for Hatching

1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15

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BUFF COCHINS

Solid Buff. Heavily feathered. First prizes at San Diego show, '03; San Diego fair, '03; S. F. show, '03; Los Angeles, '03 and San Diego, '04. Harry McIntire. 27th and D Sts., San Diego Cal.

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.

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S. C. W. LEGHORNS

Strong constitutional birds. Small pens. Fertile eggs guaranteed. Reasonable prices for commercial hatching. Pains taken in packing.

E. A. BAST, 514 W. Crow Ave., Pomona, Cal.

Good Hatch Guaranteed

BUFF ROCKS

Eggs—$2.00 per 15

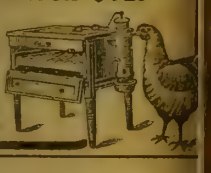
WHITE MINORCAS

Eggs—1.50 per 15

F. E. Seaman, Upland, Cal

200-EGG INCUBATOR $12.80

This perfect 200-egg Wooden Hen at $12.80 is a standing trade innovation. It will do the work of the most costly hatcher, and always keeps in order. Hatches every fertile egg. Catalogue with fourteen colored views sent free.



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All hardy farm raised stock. 75 per cent fertility guaranteed. Eggs per setting, $2.00; settings for $5.00.

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MATURED

Standard Bred

Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W. Leghorns

Only Birds that have

MOULTED

are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

CAPTAIN MITCHELL

SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904

There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of **Thoroughbred Fowls**, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about **INCUBATORS and BROODERS**. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address

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19 Ribbons at San Francisco and Los Angeles Shows. Entries 26.

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H. H. HOLLAND - Proprietor

Booking orders for eggs from yards of White and Brown Leghorns, White, Buff and Barred Rocks, Blue Andalusians, Light Brahmas, Silver Spangled Hamburgs, Buff Cochin Bantams, Black Minorcas, Pekin Ducks and Bronze Turkeys.

true sympathy, into our poultry operations and retire with its attendant interest in our hearts and minds. Arise with increased determination to stop short of nothing but the top, be a leader and not a follower or half-hearted imitator of others.

Each day will bring us its cares, its perplexities, its measure of the stern realities of life. Mingled with these should be some of the higher ambitions, some thoughts and hopes for better things farther on.

That there is money in poultry if rightly handled is true, but one can't expect a living from it unless carried on quite extensively, and then one must be prepared for losses and plenty of hard work.—Clarence M. Kelly, in Poultry Journal.

PROCURING EGGS IN WINTER.

There has been so much written on this subject that it seems almost threadbare, still people continue to be interested in what is said. I have found that the preparation of hens for winter work is quite different to that required for pullets. Hens, to become good winter layers, must be, when the breeding season is over, kept separate from the cocks and carefully nursed through the molt, which will, with early hatched birds, be over by October 1. We now give them the run of the rye patches and fodder yards, feed them sparingly a well-balanced, egg-producing ration twice daily, keep them slightly hungry, so they are always pleased to forage or scratch for a living. If they are of the White Wyandotte variety, by November over half of them will be laying. The winter laying pullet, to be ready for work by November, should be hatched not later than the middle of May, still I have 22 pullets that were brought out the first week in June that are now laying 10 eggs daily. Much depends upon how strongly their growth is forced during the summer. Pullets hatched in February, March and April will, if given only half a chance, be full-fledged layers by October 1. During October and November, when the price of eggs is low, we store them, not only ours, but buy a great many from farmers, with whom we arrange to keep the cocks confined. We pack them in salt, first a layer of salt, then a layer of eggs, placing them with the small end down, fill in interstices with salt, and cover them to a depth of about a quarter of an inch, then another layer of eggs. These cases we store in a nice clean, cool cellar. Eggs without the germ thus packed will keep for months, and come out fresh and palatable. We market them in December, when the price usually is 30 cents a dozen.

At the close of the forage season, about the middle of November in this latitude, we move our hens and pullets into their permanent winter quarters. We have a frame cottage winter laying house, 32 by 32, 12 feet high, weatherboarded on the outside, inside walls, bricked out and plastered, with a tongue and grooved flooring, and an 8 foot plastered ceiling. The floor space is divided in four pens 15 by 15. One of these is used for a roost, the others for scratching and laying rooms; attached to one of these is a sun and dust bath room 16 by 16, with the south wall made of glass, which is always supplied with dry road dust. The roost room is held at a temperature close to 40 degrees, those adjoining at 50 and the other at 70. This building accommodates 100 hens. When the weather is mild, the exit is left open and they have full range of the premises, they frequent the deserted summer houses, which are kept strewn with wheat chaff and clover straw, sown with a variety of small grain. They never fail to take a stroll through the cow yard. How they do enjoy an outing of this kind! It makes them so happy and contented. All these rooms are well supplied with nest boxes, but they invariably choose the warmest room for laying. We guard very closely the daily ration, feed as great a variety as possible, millet, wheat, rye, boiled oats, raw oats, chopped popcorn and occasionally chopped Indian corn, boiled potatoes and the table scraps, give them a mash twice a week, made of steamed cut clover and bran, with beef scraps and a little salt added. They always have access to ground bone, oyster shell and gravel, with an abundance of fresh water, supplied in two five-gallon fountains set up 12 inches above the floor; also a trough of skimmed milk. The water is very essential; it forms a large percentage of an egg; with a scant supply you can have no prolific egg production. To succeed in winter you must select a good laying breed of fowls to commence with. I have tried many of the leading varieties, and find the White Wyandottes to be the most reliable and profitable layers. I once tried to make winter layers of a collection of barnyard fowls that I purchased from a farmer by the way of an experiment. They had the advantage of the most favorable surroundings, in the way of housing, care and feeding, but the result was a complete failure. To have an abundance of eggs in winter you must breed and care for your fowls with that specific object in view. The principle of speciality, in breeding, applies to all classes of live stock.—L. A. Richardson, in American Poultry Journal.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles

DIFFERENT CONDITIONS.

Editor Cultivator: I have three heifers ailing, as detailed below; will be thankful to have your advice about them.

(1) Heifer two and one-half years old, in milk for three or four months; has developed a large fleshy bunch between cleft of jaws where the neck connects.

(2) Heifer coming two years; has had very harsh, raucous breathing for two or three months, almost like a horse troubled with roaring; chokes and sputters when eating her ensilage and hay, but eats feed all up. No external symptoms. Is thrifty and looks well.

(3) Heifer about 15 months old, troubled with diarrhoea, about a week ago as a result, I think, of getting fed some molasses with her corn ensilage and hay. Diarrhoea is not bad now, but she has lost her hearty appetite, only picks at her feed, which has been corn ensilage, alfalfa hay, beets and a little mixed bran and rolled barley. How can I get her bowels and stomach in order again?—Subscriber, Hynes.

No. 1. This swelling may be caused from some foreign substance, such as foxtail, or may be it is a start of lumpy jaw, as that disease is not always on the bone. Apply a cerate of cantharides blister; rub in well; this will scatter or bring to head.

No. 2. This heifer shows symptoms of tuberculosis; give her the tuberculosis test; if there is no reaction you have diseased condition of the pharynx.

No. 3. Give this heifer 1½ pints raw linseed oil, 2 oz. spirits turpentine and 1½ oz. laudanum; one dose; stop ensilage; feed hay until she recovers.

* * *

FOR SCOURS.

Editor Cultivator: My horse scours very much after driving. She eats all right; she also gnaws her manger a good deal. She is in good condition and plenty to eat. What shall I do for her?

Try the following prescription: Pow. opium, 2 oz.; tannic acid, 2 oz.; Prep. chalk, 4 oz.; mix. Give dessert spoonful once or twice a day as the case requires.

THE LATEST POULTRY BOOK

A Practical Poultry Plant

in Southern California

By Captain E. Pryce Mitchell of Santa Barbara

A Practical Book by a Practical Man on success in California Poultry Raising.

$1.25 POSTPAID

Book will be issued within the next week. Order at once and get the latest on poultry raising. Cultivator readers may have the first copies issued by writing at once to this office.

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203 NEW HIGH ST. LOS ANGELES, CAL.

Largest Poultry Supply House in the United States

YOU DON'T NEED TO

Stay Up at Night

In order to have successful hatches when using the

IMPROVED LOS ANGELES INCUBATORS

Self Regulating — Non Moisture
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FREE—1904 Catalogue—Free

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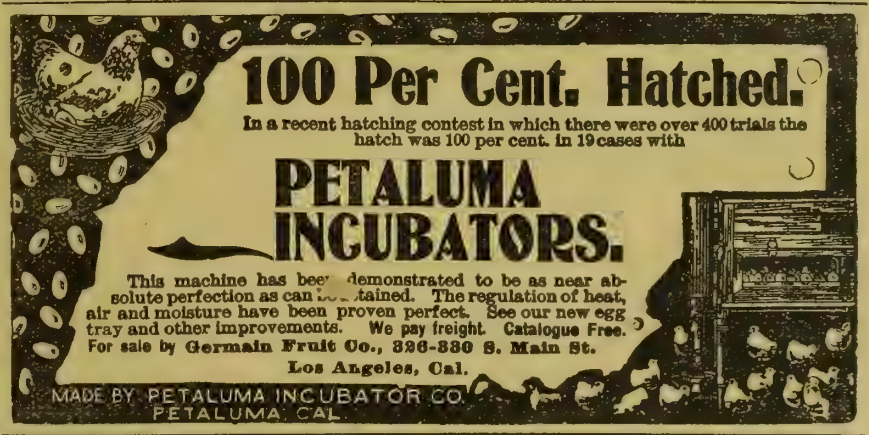

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

ORNAMENTAL TREES.

Miss C. S., Alhambra, wishes a list of trees for large lawn, near house, and along driveway, with the common, as well as botanical name.

Of course every tree has a botanical name, but some have no common name, even in their own native country. Common names are given in the lists below where any exist. "Trees for the lawn" sounds very nice but the lawn must be preserved intact, except for trees and plants along the boundaries. Trees for ornament are largely a matter of taste and the list given below is the taste of the writer, as the tree names occur to him at present writing, in the order of their desirability.

Quercus agrifolia (Field Oak); Quercus Suber (Cork Oak); Jacarauda ovalifolia (Blue Tree Bignonia); Magnolia grandiflora (Bull Bay); Sterculia acerifolia (Flame Tree); Pittosporum undulatum (Victoria Box); Pittosporum engenioides (Tarata); Camphora officinale (Camphor tree); Ficus macrophylla (Moreton Bay Fig); Schinus Molle (Cal. Pepper tree).

Conifers (cone bearers)—Cedrus deodora (Indian Cedar); Sequoia gigantea (Cal. Big tree); Arancaria Bidwillii (Bunya-funya); Abies Nordmanniana (Nordmann's Fir); Cedrus Libani (Cedar of Lebanon); Abies Pinsapo (Spanish Fir); Picea pungens (Colorado Blue Spruce); Cedrus Atlantica (Atlantic Cedar); Pinus Canariensis (Canary Id-Pine); Juniperus communis Hibernica (Irish Juniper).

The above lists do not include the acacias, of which there are many species worthy of incorporation in such a list. Sterculia diversifolia, the Bottle tree is best for driveway, with several acacias a close second. A group of palms should find a place in every ground.

* * *

LARGE FOLIAGE PLANTS.

Editor Cultivator.—Please give a list through your magazine, of ten or a dozen large-sized foliage plants for tropical plantations.—H. R. C., Pomona.

Arundo Donax (Giant Reed) and its variegated forms, Cannas, Cordyline australis and C. indivisa (Palm Lillies or Dracenas), Cortaderia argentea (Pampas Grass) and its variegated form); Dasylirious (Tufted Lily), Doryanthes excelsa or D. Palmeri (Giant Torch Lily), Fatsia papyrifera (Chinese Rice Paper plants) and F. Japonica, Gunnera chilensis or G. manicata, Miscanthus Simensis (Eulalia), Musa Ensete (Abyssinian Banana) and Musa sapientum (common Banana), Phormium tenax (New Zealand Flax) and its variegated form. For a border in front of such plants Carex Morrowi, a Japanese striped sedge, would look as well as anything.

NOT ON THE GRAND JURY.

A sinner who felt the twinges of remorse for an evil life, was moved to speak at a revival meeting. "My brothers and sisters" said he, "I feel as if I ought to confess my wickedness before you all but I will not do so tonight."

"Why," asked the preacher, "the Lord will forgive."

"O, well, I'll wait," answered the convicted soul, "until the grand jury has adjourned, the Lord isn't on the grand jury."

THE APPLE.

The popular opinion that apples have run out, ought not to be entertained by any farmer for a moment. What is there in the nature of the apple, or our soil or climate that should cause it to fail? It is not, like the peach and the quince, a half-hardy tree, therefore liable to be winter killed. It has its enemies, but they can be destroyed without destroying the vitality or character of the tree. There are some varieties that deteriorate, but others take their places. There are partial failures some years, and people begin to prophesy evil and only evil to the apple crop. But there will come bearing years again, if we only have faith and patience, with the addition of good care and culture to our orchards.

Don't hesitate, either, to plant new trees. Every farmer owes it to himself and to his children to set out at least one orchard in his lifetime. How else is the number of apple trees on his farm to be kept good? Go to a nursery, the owner of which you know to be a reliable man, make a selection, during the winter if ground is bare, and have them carefully dug in spring and set out in some lot that has been under cultivation for the past year or two.

Never plant deeper than the tree stood in the nursery row. Never omit applying a mulch to young trees if there is the slightest danger of drouth. Never forget that low, stout (not stunted) trees are preferable to tall, slender ones.

Never forget that a hardy, vigorous productive variety, of medium quality, is infinitely more desirable than a feeble growing, shy-bearing variety of much better quality.

Never fail to have a succession of apples for home use. For this purpose a few trees each of a somewhat larger list of varieties may be selected.

Chemically the apple is composed of vegetable fibre, albumen, sugar, gum, chlorophyll, malic acid, gallic acid, lime and much water. Furthermore, the German analysts say that the apple contains a larger percentage of phosphorus than any other fruit or vegetable.

This phosphorus is admirably adapted for renewing the essential nervous matter, lethicin, of the brain and spinal cord, and is, therefore, valuable as a medicine.

It is, perhaps, for the same reason rudely understood that old Scandinavian traditions represented the apple as the food of the gods, who when they felt themselves to be growing feeble and infirm, resorted to this fruit for renewing their powers of mind and body. Also the acids of the apple are of signal use for men of sedentary habits whose livers are sluggish in action, these acids serving to eliminate from the body noxious matters, which, if retained, would make the brain heavy and dull, or bring about jaundice or skin eruptions. When you bake an apple for an invalid be sure and have it look brown and juicy, and without that lop-sided appearance that is often seen, when it is burst open on one side, and burnt to a cinder on the other.—Green's Fruit Grower.

THE GOAT DIDN'T KNOW.

A little boy following his mother espied a long horned goat browsing not far away. In fear he rushed to the other side of his mother, and, taking hold of her hand asked her if the goat would hurt him.

"Why no, my son," said his mother. "Don't you know you are a Christian Scientist and nothing can hurt you?" "O, yes" answered the boy. "I know I'm a Scientist but the goat don't."

The blockade in the Sierras caused by the collapse of snow sheds and tunnell has ended. Trains are again moving.

Hon. David Rankin, the multi-millionaire of Missouri, has started east. He says "he likes California much, though we raise nothing but luxuries here." Rankin believes in corn, hogs and cattle.

Hollywood Rose Co.

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No. 2 size, 24 inches high, 35c each, $3.50 per doz

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We will furnish the wire at 2c per pound, No. 14 guage. Weighs about 1¼ pounds single strand per 100 feet. Figure it yourself and get a good fence cheap. You make mesh or openings to suit requirements. This is galvanized wire that has been used for other purposes, or it would be worth two or three times our price. Remit for amount required and get quick shipments. No quantity under 100 pounds supplied.

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PATIENCE WITH THE LIVING.

Sweet friend, when thou and I are gone
Beyond earth's weary labor,
When small shall be our need of grace
From comrade or from neighbor;
Passed all the strife, the toil, the care,
And done with all the sighing—
What tender ruth shall we have gained,
Alas! by simply dying?

Then lips too chary of their praise
Will tell our merits over,
And eyes too swift our faults to see
Shall no defect discover.
Then hands that would not lift a stone
Where stones were thick to cumber
Our steep hill path, will scatter flowers
Above our pillowed slumber.

Sweet friend, perchance both thou and I
Ere Love is past forgiving,
Should take the earnest lesson home—
Be patient with the living.
Today's repressed rebuke may save
Our blinding tears tomorrow;
Then patience, e'en when keenest edge
May whet a nameless sorrow!

'Tis easy to be gentle when
Death's silence shames our clamor,
And easy to discern the best
Through memory's mystic glamor;
But wise it were for thee and me,
Ere Love is past forgiving,
To take the tender lesson home—
Be patient with the living.—M. E. Sangster.

A SAD LITTLE STORY.

On the Tremont Street Mall late yesterday afternoon hundreds of belated suburbanites paused in their scramble through the slush and snow as they made their way homeward, first to wonder, then to pity and sympathize.

Seated on the edge of the curbstone in front of the Park Street Church, unmindful of the blinding storm that whirled about him, sat a little newsboy, holding in his arms the mangled body of a dog. His pile of papers lay scattered in the snow, and now and again, as a gust of wind swept round the corner, the stray sheets were whirled out into the slushy street. Caring nothing for his little stock in trade or the gathering crowd the little fellow cuddled his dog the closer, and as the full misfortune of his loss came over him, he cried as though his heart would break.

The unusual sight attracted the attention of the passersby and soon a crowd that blocked the sidewalk was gathered about the little fellow and his dog. Many of those who paused to see recognized in the boy one of the newsboys that stand at the entrance of the subway every evening selling papers to those homeward bound. Little by little the boy told the story of his misfortune.

The dog, which he held so closely in his arms, was his pet and playmate, who usually stayed at home with his mother in the West End, but yesterday unable to resist the pleading of the little brown eyes of his playmate, the boy had allowed him to accompany him to Park street while he sold his bundle of papers. All had gone well through the afternoon until shortly after 5, when a gust of wind had blown a paper from his hand just as he was passing it to a customer, sending it scurrying far out in the street. Quick as a flash the dog started after it, and just as he was returning with the coveted sheet in his mouth, a heavy herdic dashed round the corner, striking the little fellow full in the side and bowling him into the street. The heavy wheels passed over the frail body, crushing the little ribs to the ground. Too late the newsboy saw the peril of his pet, and when he reached him the little dog's life had ebbed away and the bright eyes that has so often danced with pleasure at the call of his master were closed in death.

Tenderly gathering the little fellow in his arms the boy carried him to the sidewalk, where he tried with all his might to restore life to the one that had been his chum and companion.

Touched by the devotion of the boy for his dead pet, kind-hearted bystanders made up a collection and offered it to the boy, but he turned them away and gathering the little dog in his arms started down the street toward home leaving his forgotten papers to blow about as they might.—Boston Journal.

HIS ONE FRIEND.

Railroad men are not sentimental. Their life is too full of hard work and nerve-straining peril. Something more than ordinary is necessary to move them deeply, but an incident which occurred recently in the Southwest, and which the Los Angeles Times reports, did move deeply a whole train crew on the Southern Pacific railroad.

The Colton local had just passed a little station called Nahant, when the engineer saw an old man lying at full length on the track only a few hundred yards in front of his engine.

The usual danger signal was given, but the man did not move, and the train was brought to a standstill a few feet from him. A glance at the body showed that the poor fellow was dead. In a few minutes the conductor, engineer and trainmen were all standing round the body.

Up to this time they had not observed the presence of a little black dog, but as soon as they approached his master he made a dash for the nearest man, and for a few seconds fought with all his puny strength to keep the man away.

They were there for the purpose of examining the body, however, to see what could be done, and the little dog was rudely kicked to one side. He did not howl with pain as a dog generally does when kicked. He simply gathered himself up and quietly made his way between the men's legs until he reached his dead master's head, when he placed his little face by the side of his master's and after looking at the intruders a few seconds began to whine, and big tears were noticed running down his nose.

"I had often heard," said one of the trainmen, "that dogs have been known to shed tears, but I never believed it until then, and I have lots more respect for the dog family than I ever before had. When I looked around at my companions some of them were crying, too.

"The old man, who was probably a section hand, was removed from the track with more care than is usually displayed in such cases. His blankets were carefully spread and the body was handled as gently as mother would have done it, all on account of the tears in that little dog's eyes.

"As soon as the dog discovered that our roughness had disappeared he became friendly, and seemed to appreciate what we were doing for his master; but we could not induce him to leave the old man's body, and when the train pulled out he was still sitting by his dead master's body."—Dumb Animals.

THE MOTHER AT HOME.

The mother is the heart of the home. She it is who determines its characteristics and diffuses through it that subtle atmosphere which every sensitive person can feel when introduced into the home circle, and from which can quickly to inferred the ruling spirit of the home. There can be no doubt that the most effective training for children is the training of example, and this truth the mother needs constantly to bear in mind. How can the impatient, querulous, fault-finding mother teach patience and kindness and good temper? How can the vain mother teach humility? How can the mother, greatly absorbed in keeping up the pomps and vanities of life, eager for place and show, teach her children the true principles of a happy life? How can the selfish mother teach generosity or kindness, or the discontented mother teach contentment?—Farm Home.

GETTING OUT OF BED.

Don't jump up the first thing your eyes are open. Remember that while you sleep the vital organs are at rest. The vitality is lowered and the circulation not strong. A sudden spring out of bed is a shock to these organs, especially to the heart, as it starts to pumping the blood suddenly.

Take your time in getting up. Yawn and stretch. Wake up slowly. Give the vital organs a chance to resume their work gradually.

Notice how a baby wakes up. It stretches its arms and legs, rubs its eyes and wakes up slowly. Watch a kitten wake up. First it stretches out one leg, then another, rubs its face, rolls over and stretches the whole body. The birds do not wake up and fly as soon as their eyes are open; they shake out their wings and stretch their legs, waking up slowly. This is the natural way to wake up. Don't jump up suddenly, don't be in such a hurry, but stretch and yawn and yawn and stretch. Stretch the arms and the legs; stretch the whole body. A good yawn and stretch is better even than a cold bath. It will get you thoroughly awake, and then you will enjoy the bath all the more.—Farm and Home.

THE VALUE OF APPLES.

There is scarcely any article of vegetable food more widely useful and more universally liked than the apple. The most healthful dessert that can be placed on the table is baked apple. If taken freely at breakfast, with coarse bread, and without meat or flesh of any kind, it has an admirable effect on the general system. If families could be induced to substitute the apple—sound, ripe and luscious—for the pies, cakes, candies and other sweetmeats, with which children are too often stuffed, there would be a diminution of doctor's bills sufficient in a single year to lay up a stock of this delicious fruit for a season's use.—Science of Health.

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RECIPES

Eat Little, but Have That Little Good

A NEW WAY TO PREPARE GRAPE FRUIT.

Those who do not object to a liquor flavoring may prepare the grape fruit, or pomelo, in the following manner: Cut the fruit in half with a sharp knife, remove the pith or core, then pour into each half one teaspoonful of claret or other wine and fill the cavity with ice. Let stand two hours or more. Remove ice before serving.

* * *

Strawberry Foam—Three pints berries, 1½ cups pulverized sugar; chop the fruit or crush with a wire potato masher; stir in the sugar; let stand an hour, add juice of one lemon, same of orange; add last whites of 2 eggs whipped to a stiff foam. This must be done with a silver fork and whipped into the fruit mixture. Set away in a cool place, or on ice, if convenient. Prepare a milk blans mange to serve with it.

* * *

Apple Whip.—Pare and grate one large apple, beat the whites of 3 eggs, add 3 tablespoonfuls powdered sugar, ½ teaspoon lemon; add grated apples.

* * *

Breakfast Sausages—Cut the links apart and prick with a fork to keep from bursting; put in boiling water and boil for 5 minutes; drain off the water and add just enough boiling water to cover the bottom of the pan; boil until the water has boiled away, then cover closely and cook until brown, shaking often to prevent sticking and scorching; dish on a hot platter and keep hot. Peel 5 bananas, cut into lengthwise halves, dredge with flour, place in the hot fat and cook a golden brown and use as a garnish for the sausages.

* * *

Cake Without Eggs.—One cup sugar, ½ cup butter, creamed together; cup sweet milk, 2 teaspoonfuls baking powder sifted in 1½ cups flour; flavor as liked and bake in layers or loaf. By adding different spices and a cup of chopped, seeded raisins this makes a good fruit cake. If baked in layers it may be put together with jelly or any desired filling. This also makes a very good cottage pudding, using the following:

Sauce—One teacup sugar, half teacup butter, 1-3 teaspoonful salt, tablespoonful flour; pour on 3 teacups boiling water; boil for 5 minutes, flavor to taste.

* * *

To cut butter in cold weather heat the knife and all crumbling will be avoided.

WARM FOOT-BATHS.

The warm foot-bath is a remedy so easily to be had in any household, so quickly prepared and so simple to administer, that it is a pity it should not be more universally understood and used. Its possible uses are legion. Only a few of them can here be enumerated.

It is generally understood to be one of the good "old-fashioned" remedies for a cold—especially a cold in the head. It should not be allowed to become old-fashioned for this purpose, for with all our rapid multiplication of "antis" and other new medicines, it still remains one of the best modes we have of combating a bad cold. It must be properly given, but this is a very easy matter. The patient should be well covered as to the body; the pail or other receptacle for the water should be deep and perefectly narrow, for the higher the water reaches up the calves of the legs the better. A heaping teaspoonful of mustard should be added, and the feet should go into the water as hot as can be borne, fresh hot water being slowly added as that in the bath cools. The whole process should last twenty minutes to half an hour, during which a glass of hot water or lemonade should be slowly sipped.

It is perfectly ridiculous for the patient to take the feet out of the water, dry them, and go to clearing up the room, as is sometimes done. Five minutes' attention from a second person is absolutely needed at this juncture, as it is most important that the feet should be quickly dried, and the patient immediately covered up very warm, preferably with a hot water bottle to the feet, in order that the profuse perspiration, which is the principal result to be desired, should not be checked. If this process is faithfully carried out, a cold will generally be found scotched the next morning.

A headache, especially that variety known as "nervous," may often be relieved by a warm, not necessarily a very hot, footbath. The footsore, overdriven housewife can gain blessed relief for aching muscles and tired nerves by ten minutes devoted to a warm foot-bath. A very cross baby can often be converted into a cherub by the same simple treatment. There are many times and places in which it is not convenient to give the baby a warm tub-bath, and then a pint of warm water and a very small basin will serve for the miracle-working foot-bath.—Youth's Companion.

A VALENTINE PARTY.

A description of a Valentine party which I attended this year may be of help to some hostess planning for a similar party for next year. We were received in a room decorated with wreaths of green, hung in festoons caught up at regular intervals with ribbon streamers. From the center of each wreath hung hearts of stiff parchment paper tinted blue and lettered in gold, each bearing a number and a fate or fortune.

Suspended from a portiere rod between parlor and hall were three hearts formed of heavy wire and twined with evergreen, above each one was a jingle. The first said:

"Blow your bubble right through here.
And you'll be married before another year."

And the second:

"To be engaged this very week
Number two is the one to seek."

Above the third:

"A sad and awful fate awaits the one who seeks me,
For he or she will ever unmated be."

On a small table near by was an immense bowl filled with sparkling soapsuds, and also clay pipes decorated with little blue hearts. We were instructed to throw the bubbles off the pipes and try to blow them through the hearts with pretty little fans given us for the burpose; no one found this easy to do for sometimes they would float through number three when we were trying our very best for number one or two. The same idea might be carried out by using small feathers dyed different colors, a different color for each guest.

Another nice game we played was trying to throw different sized hearts over a small stake, a game of ring toss with hearts for the rings, this was great fun for the one who could successfully get them all over once out of three trials was given a lovely valentine. The hearts were made of heavy cardboard and the way they would not go over the stake was surprising.

The partners for supper were chosen in a novel way; the boys were given numbers and the girls' names were written on tiny pieces of paper and rolled in bits of clay, then all were poured into a bowl of water and the first one coming out of its clay home was the partner of number one and so on in the order in which they came to the top.

A "Good Luck" supper was served in the dining room. Directly over the table, suspended from the chandelier hung a floral horse shoe. In the center of the table and at each end were fairy lamps surrounded with horse shoes made from flowers. The souvenirs were clover leaf stick pins and silver horse shoes. The bon-bons, cake, sandwiches and ices either took the form of horse shoes or clover leaves. The place cards were large square envelopes containing a valentine, which was read between courses and provoked much merriment.

After supper, a tray containing as many numbers as there were guests, was passed, and each took a heart with a corresponding number from the decorations on the wall, and read aloud the fortunes there. These were all very clever and some very appropriate.

If one wanted to, the decorations might be carried out in tissue paper instead of evergreen and I for one, must confess that I lean toward the tissue paper for, as all know, the evergreen is a job to clean up. The valetines might be home made ones if one could not get the nice ones and I am sure every one would have just as good a time, for the pleasure of being entertained lies in the hospitality extended rather than in any mere material features.

The invitations were sealed with heart-shaped pieces of blue paper, of the sort that is used to keep tally with at card parties and they are very inexpensive, and one may always get the gilt ones if they cannot get the other colors.—Geneve Much.

The Limited Log Book

In the buffet car of each California Limited train on the Santa Fe there is a "log book," in which passengers are asked to record their impressions of the service.

Here is one impression: "I was on the first California Limited train leaving San Francisco for Chicago. Was so impressed with the good service, splendid attention and fine climate that on my four trips since to New York I always take this grandest of all American trains."

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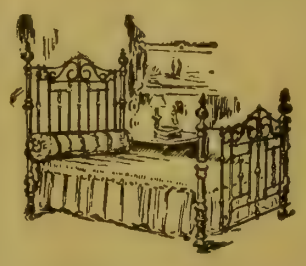
New Iron Beds

Largest Line in Southern California



We have just received a very large shipment of iron beds, including new pattern enameled in all the popular colors. They are prettily trimmed with brass and range in price from $3.50 up to $60.00. Many of them have the new patent reversible double hook rails, which make them more solid, and either high or low beds. We also have a very fine line of brass beds ranging in price from $28 up.

Hodges' Fiber Carpets

Our new stock is now in, and as we are sole agents for this superior floor covering, it is the only stock in the city. The Hodges Fiber Carpets are more durable than any matting, will not collect dust, are not eaten by moths and are very inexpensive. We have a large line of very pretty patterns. We also have them in rugs ranging in size from 18x36 inches to 9x12 feet.

Niles Pease Furniture Co.

439-441-443 South Spring St., Los Angeles.

Tell Your Eastern Friends..

TO CALIFORNIA
$25 TO $33

From Kansas City, Houston, St. Louis, Chicago, Omaha and other points.

During March and April, 1904

Prepaid tickets from any agent—choice of all routes crossing the continent.

SOUTHERN PACIFIC

261 South Spring St. Los Angeles

RED CROSS WIND MILLS

ARE BUILT RIGHT AND WORK RIGHT. HAVE BALL BEARING TURNTABLE. SELF-REGULATING, RUN IN LIGHT WIND.

WE CARRY COMPLETE LINE OF PUMPS FOR VERY CONCEIVABLE USE—GASOLINE ENGINES, PIPE, FITTINGS, BRASS GOODS, TANKS, HORSE POWERS, ETC.

Send for Catalogue, Mailed Free.

WOODIN & LITTLE,
312-314 MARKET ST.
SAN FRANCISCO, CAL.

We Have Them

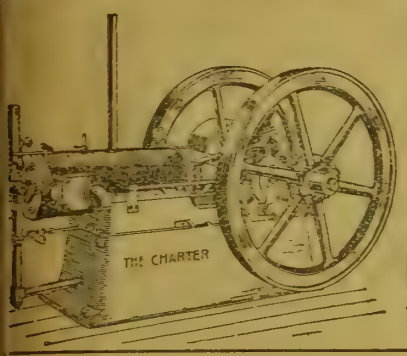
WHAT?

Hand forged pocket knives and razors made in our own factory and guaranteed to be of superior quality. They are made of the best English steel, ground and tempered by hand by skilled workmen and will be found to have and to hold a good, keen cutting edge.

We will send you a fine, three blade knife for $1.00 or a two blade brass lined one for 75 cents. An extra fine concaved razor for $2.00 all prepaid.

C. PLATTS' SONS ELDRED, PA.

Charter Gasoline and Distillate Engine



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Complete Pumping Plants Installed Steam, Gasoline or Compressed Air. Also Spray Outfits. Sure Death to Scale.

Pacific Coast Mfg. Co.
126-128 S. Los Angeles St., Los Angeles

CHICO NURSERY CO., INC.

WE STILL OFFER

BLACK WALNUTS Write us at once for quotations on the number you can use.
CHERRIES Black Tartarian, Ey Chapman, Yellow Spanish, Royal Ann, Black Republican.
APPLES N. Y. Pippin, Yellow, Bellflower, etc.
PEACHES Phillips, Tuscan, Cal. Cling, etc.
GRAPE VINES Tokays, Muscat, Mission, etc.
We are sold out of many leading varieties, so place orders for the above at once. Write for Catalogue.

CHICO NURSERY CO., INC., 308 WALNUT STREET CHICO, CAL.

BAKER'S
TRACELESS HARNESS

No Whiffletrees—No Traces

This harness is indispensable to every fruit grower—vineyardist or orchardist. Saves time, labor and patience. Pays for itself many times over every season in the saving of injury to trees and vines and damage to growing fruit, which always occurs from the use of ordinary whiffletrees and traces. One of the handiest of farm equipments.

We have hundreds of testimonials from every State, like the following:

Sunland, Cal., December 27, 1902.

SIRS: In regard to the Baker Traceless Harness which I purchased from you I wish to state that when using it on the team among my trees, I know of no improvement which can be made on the outfit unless I cut the legs off the horses. It is impossible to injure the trees or fruit while using it.
Yours well satisfied, T. G. CUSHMAN.

Sebastopol, Cal., March 29, 1902.

DEAR SIRS: Your harness is all you represent it to be in every particular. We judge it a big success for plowing vineyard and orchard.
Yours very truly, C. D. HAMILTON

Don't delay—write us to-day for illustrated catalogue of this valuable harness, mailed free for the asking. Live agents wanted everywhere.

HOOKER & COMPANY, 16-18 Drumm St., San Francisco, Cal.
Sole Agents For California.

When writing to Advertisers Please mention Cultivator

Los Angeles Markets.

Los Angeles, Feb. 25, 1904.

The local markets have shown no special activity for the last few days. The usual amount of strength prevails over nearly all lines, due to the continued scarcity of rain in this locality.

Butter.

Butter underwent no change at the last meeting of the Creamery Board of Trade, but conditions are improving in the way of feed, and the supply is likely to see a gradual increase, which will cause prices to drop accordingly.

B. of T. Creamery, 2lb roll		70
So. Cal. dairy do	60	62½
Cold Storage	50	55
Cooking, lb.,	21	23

Cheese.

Best domestic grades are in fair demand, and remain firm at the prices quoted.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	17	
Swiss	19	
Imported do	28	

Eggs.

Fresh ranch have been coming to market lively, the last few days. There has been a decline of two cents below last week's prices. This is the lowest figure of the present year. But dealers assert that, as they grow cheaper, storing will begin and the general consumption increase.

Fresh ranch	21	22
Store, case count	19	20

Poultry.

All the best grades are very scarce. Spring chickens are quoted two cents over last week's prices. A still further advance is in evidence.

Spring chickens, per lb	19	22
Hens, No. 1 per lb.	14	14½
Ducks, per lb	14	15
Turkeys, per lb	20	22
Turkeys, cold storage	22	23

Live Stock.

First class beeves are in good demand. However, there is no advance in price over last quotations. An advance is expected soon.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Heifers, cwt	3 00	3 75
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

First class varieties are advancing in the north. Local dealers report that there is an immense demand for seed. Sweet potatoes are also scarce. Market steady.

River, per cwt	1 60
Oregon, do	1 75
Local Sweets, white	3 00

Vegetables; Mixed.

Onions are reported higher than they have been for some years past, which is caused by the lack of interest in that line during the last planting. Other lines of vegetables are showing a lower tendency, all varieties being quite plentiful.

Onions, yellow, per cwt		2 25
Nevada, fancy do		3 00
Beets, per 100 lbs		1 25
Cabbage, do		1 50
Green peas	06	07
Lettuce, per sack		40
Tomatoes, 25 lb crate		2 00
Celery, per doz		40
Hubbard squash, per ton		20 00
Carrots per sack		1 00
Chiles, string		75
Cauliflower, per doz		50

CITRUS FRUITS; FRESH

Good stocks are in fair demand. Market steady, at prices quoted as follows:

Fancy, 126s, per box	2 00
Do, 150s	1 50
Do, 176s,	1 25
Do, 200s,	1 00
Standards	50
Lemons, fancy, per box	1 50
Standard, do	75
Grape Fruit	1 25
Limes, per 100	90 1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower	1 75
Four ½ tier, do	1 50
Pears, Winter Nellis 40lb bx	2 00
Northern apples, 40 lbs.	1 00 1 50
Strawberries, bx, fancy	07 12
Grapes, per crate	3 00 4 00
Guavas	04 05

Fruits; Dried.

Apples	05½ 06
Apricots	08 09
Peaches	07½ 08
Raisins, per box	3 00
Raisins, loose	07 08½
Prunes	03 06
Pears	10

Beans, Dried.

Beans are still held firm, with a good demand. The supply is very limited. Most dealers are well satisfied with the outlook.

Pink, per cwt	3 40 3 60
Lady Washington,	3 25 3 40
Limas	3 50 4 00
Small White	3 40 3 60

Nuts.

Almonds, paper shell	14
Almonds, soft shell	13 13½
Walnuts, soft shell	14 14½
Walnuts, hard shell	13½ 14
Peanuts, eastern	06 07
Peanuts, California	05 05½

Hay and Grain.

Reports differ as to the real situation regarding hay. But it is generally thought among the dealers that receipts will be limited until the farmers are satisfied with the future prospects. However, it has been marketed more freely since the last rains.

Grain conditions are improving and the prospects for a rise are looked upon with favor among the commission men.

Alfalfa	16 00
Tame Oat	16 00
Barley hay	15 00
Wheat Hay	15 00
Wheat	1 35 1 45
Barley	1 12½ 1 15
Oats	1 25 1 35
Corn	1 25 1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30
Bran	1 30
Feed Corn Meal	1 50
Middlings	1 45
Cracked Corn	1 45
Oil Cake Meal	1 85
Chicken Wheat	1 65
Cocoanut Meal	1 50

San Francisco Markets.

Dairy.

San Francisco, Feb. 25.

Extra creamery butter is entirely cleaned up in the market, while there is plenty of cheap stock uncared for. The rains have succeeded in lowering prices, nearly a four-cent drop having been made during the past week. Quotations are:

BUTTER—Per lb:

Creamery, extras,	26
Creamery, good to fancy	24 @25
Dairy, extra	22 @23
Dairy, choice	20 @21
California storage	21 @24

CHEESE—Per lb:

Cal. Creamery, mild new, extr	12½
Cal. Creamery, mild new, choice	11 @12
Young America	12 @13
Eastern, New York cream	15 @16

Eggs and Poultry.

Eggs have held firm all the week, notwithstanding regular and heavy supplies. The heavy demand for shipping is responsible for firmness. Quotations are:

EGGS—Per doz:

Ranch, selected large	25
Ranch, good to choice	24
Store	22 @23

POULTRY—Old Roosters, per doz., $5.50@6; young Roosters, $6.50@8; Fryers, $6@6.50; Broilers, large, $5@5.50; small, $4.50@5; Hens, small, $5.50@6.50; large, $6.50@7.50; Ducks, per doz., old, $5.50@6.50; young, $6.50@7.50; Live Turkeys, per lb., 15@17c; Dressed Turkeys, per lb., 18@22c; Geese, per pair, $2@2.25; Goslings, $2@2.25; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.25@2.50

Fruits and Vegetables.

Oranges and apples are about the only fruits moving in quantity. Oranges are moving liberally, some small export orders being filled.

DECIDUOUS FRUITS—Apples, per box, common to choice, 50c@$1; fancy, $1.25@1.50; extra, $1.75@2.

Pears—Per box: Winter Nellis, $2.50@3.

CITRUS FRUITS.—Per box: Oranges, Navels, fancy, $1.50@2.50; choice, $1@1.75; standard, 65c@$1.25, according to size; Seedlings, 50c@90c; Lemons, $1@2.50; extra, $2.75; Grape Fruit, $1.25@2.50; Tangerines, 50c@$1.25; Limes, $6@6.50.

In vegetables there has been a brisk trade. Potatoes are materially advanced, with heavy receipts of Oregon Burbanks, some of which have sold as high as $1.50. Sweets are quickly picked up at advanced prices.

VEGETABLES—Asparagus, per lb., 25@40c; Tomatoes, per box or crate, southern, $1@$1.75; Rhubarb, per lb., 12½c; Green Peppers, per lb., 20@30c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 15@20c; Green Peas, per lb., 6@8c; Egg Plant, per lb., 20@30c; Summer Squash, per box, $1@$1.50; Cucumbers, hothouse, per doz., 50c@$1.25; Mushrooms, per lb., 10@15c; Garlic, per lb., 5@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at 3@1¼c per lb.

POTATOES—Per ctl.: River Burbanks, $1@$1.15; Early Rose, $1@1.10; River Reds, $1@$1.10; Garnet Chile, 90c@$1.05; Salinas and Lompoc Burbanks, nominal: Oregon Burbanks $1.25@1.40; Nevada, $1.35; Tomales, $1.10@1.20; Sweet Potatoes, $2.25.

ONIONS—Per ctl.: Oregon, $2.65@2.75; Nevada, $3.

Dried Fruits, Nuts, Etc.

Dried Fruits are tame and with no material change in prices.

DRIED FRUITS—Prices for carload lots f. o. b. at California common shipping points, in bags, for 1903 crop, are, per lb., as follows:

Apples—Evaporated, 4@½c; Sun Dried, 3½@4½c.

Apricots—Royal, fancy, 9¼@10c; choice, 8½c@9c; Moorpark, choice, 10@12c.

Peaches—Choice, 5¼@6¼c; fancy, 6½@7¼c; peeled, in boxes, 11@14c.

Pears—Choice, 7½@8½c; fancy, 9½@10c.

Plums—Pitted, 6@9c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2½@3c for Santa Clara; other sections, ¼@½c less.

Nectarines—White, 4@5c; Red, 4@5c.

Figs—White, 3@4c; Black, 4@4½c.

NUTS—Per lb: California Almonds, hard shells, 5@6c; soft shells, 8@9c; paper shells, 10@11c; Pecans, 11@13c; Peanuts, Eastern, 6@6½c; do, California, nominal; California Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 11@12c; hard shells, No. 1, 12@13c; do, No. 2, 10@11c; Chestnuts, Italian, 5@7c.

HONEY—New Comb, per lb., White, 10@12c; Amber, 8@10c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 26@28c.

Hops.

The price for the new crop is 27@30c per lb, according to quality.

Beans.

Beans are stiffening with strong eastern demand. Quotations are:

BEANS—Prices per ctl: Large Whites, $2.55@2.75; small do, $2.90@3.15; Pea, $3@3.25. Lima, $3.25@3.32½; Red, $4@5; Pink, $3@3.15; Bayo, $2.35@2.50; Blackeyes, $2.10@2.25; Red Kidneys, $4.50@4.75.

Live Stock.

Live stock values are maintained with a marked degree of firmness and dealers report a lively market for first quality stock of all descriptions at the top quotations.

CATTLE—No. 1 Native Steers, 8½@9c; second quality, 8c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 6¼@6¾c; second quality, 5½@6c; thin Cows and Heifers, 3½@4½c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4¾@5½c, gross weight; heavy, 4@4½c, gross weight.

SHEEP—Per lb.: Fat Wethers, No. 1, 4½c@5c gross weight; Ewes, No. 1, 4@4¼c, gross weight.

LAMBS—Fat Lambs, 4¾@5¼c per lb., live weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs. and over, 5½@5¾c; weighing under 130 lbs., 5¼@5¾c; weighing 200 to 350 lbs., 4¾@5c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $15@18; Wheat and Oat, $15@18; Oat, $15@17; Barley, nominal; Clover, $13@14.50; Alfalfa, $11.50@13.50; Stock, $12@13.

STRAW—Good to choice, per bale, 60@75c.

OIL CAKE MEAL—In lots of 20 tons, $29 per ton; 10 tons, $30; 5 tons, $30.50; less quantiti, $31. Prices are mill rates and are subject to change without notice.

OILCAKE MEAL—In lots of 20 tons, $29

CRACKED CORN—Choice quality, per ton, $29@30.

FEED CORN MEAL—Choice grades per ton $28.50@29.50.

GROUND BARLEY—Per ton, $24.

COCOANUT CAKE—In lots of 10 tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@6.10 per bbl; Bakers' Extra, $4.60@4.80; Oregon and Washington, $4.10@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.42½; choice, $1.45; White Milling, good to choice, $1.47½@1.57½.

BARLEY—Choice No. 1 Feed, $1.11¼@1.13¾; off grades, $1.08¾@1.10; Brewing No. 1, $1.15@$1.21¼; Chevalier, nominal at $1.20@1.40.

CORN—Good to choice, per ctl.: California, new, large Yellow, $1.40@1.45; small do, nominal; White, $1.40@1.45; Eastern, $1.32½@$1.37½.

CRACKED CORN—Choice quality, per ton, $29@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

WOOL.

There is no material change in wool.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, Feb. 24.—The wheat market opened strong. Higher prices at Liverpool in the face of the severe slump here yesterday were sufficient inducements to buy. Initial quotations of May were 1 to 1¾ higher, at 1.05@1.05¾. July was up ¾ to 1, at 93⅜@93¾. Prices started upward, and soon recovered all the early loss. The strong cash situation was an additional bull influence. Offerings, however, were light, and in consequence the market became exceedingly strong.

Cash quotations were as follows: Flour was firm; No. 2 spring wheat, 98@1.05; No. 3, 89@1.02; No. 2 red, 1.03½@1.08⅝; No. 2 corn, 53½; No. 2 yellow, 54½; No. 2 oats, 43½@43¾; No. 3 white, 41@45¾; No. 2 rye, 73½@75½, good feeding barley, 42@43; fair to choice malting, 48@58.

DAIRY MARKET.

On the Produce Exchange today the butter market was steady; creamery, 14@16; dairy, 13½@22; eggs, easier, 19@22; cheese, firm, 10½@11¼.

Dried Fruits, Nuts, Etc.

NEW YORK, Feb. 24.—The market for evaporated apples continues quiet at former prices. Common are quoted at 4@5; prime, 6¼; choice, 5½@6½; fancy, 6¼@7. Prunes ruled firm, with Coast advices indicating a hardening market. Prices range from 3½@6½, according to grade. Apricots, choice, 9¾@10; extra choice, 10¼@10¾; fancy, 12@15. Peaches less active. Choice quoted at 7¼@7¾; extra choice, 7¾@9¼, and fancy, 9@10.

Live Stock.

CHICAGO, Feb. 24.—Cattle—Receipts, 24,000; market slow; good to prime steers, 4.90@5.75; poor to medium, 3.50@4.75; stockers and feeders, 2.50@4.10; cows, 1.75@3.90; heifers, 2.00@4.50; canners, 1.75@2.50; bulls, 2.00@4.00; calves, 3.50@7.25. Hogs—Receipts today, 45,000; tomorrow, 46,000; strong to 5c higher; mixed and butchers, 5.15@5.55; good to choice heavy, 5.55@5.65; rough heavy, 5.25@5.50. Sheep—Receipts, 30,000; sheep and lambs steady; good to choice wethers, 4.25@4.50; fair to choice mixed, 3.65@4.25; western sheep, 3.20@5.25; native lambs, 4.00@5.75; western lambs, 5.00@6.00.

CITRUS MARKETS

THE ORANGE MARKET.

The week's market has been somewhat varied in activity, owing to the cold weather during the closing days of last week, and the first of the present week. However, Tuesday witnesed a rally in demand for fruit, as the weather became warmer, with fairly satisfactory prices.

Fifty-seven cars of California oranges were sold at auction, the Agency selling 40 and the Independents 17, with prices ranging from $2.06 to $3.00. On this date about 14,000 boxes of Sicily lemons were sold. There was a decline in fruit which was held over, so much so, that delayed cars brought less than expenses.

Wednesday 45 cars of California oranges were sold. The market was active and all accumulated orders were filled promptly. The Sicily lemon market was higher by 15 to 25 cents. Dealers are waiting for warm weather and predict an active market, when the weather shall moderate and stay steady.

AUCTIONS.

NEW, YORK, February 18, 1904.

C. C. U. Highland Highlander Navels, $1.50.
Covina Fruit Exchange, XX Navels, $1.50.
C. C. U. Alhambra, Trumpeter Navels, $1.35.
Covina Fruit Ex., VV Navels, $1.40. VV Thomp. Impvd., $1.85.
C. C. U. Riverside, Our Favorite Navels, $1.45.
C. C. U., Redlands, Clover Navels, $1.65.
S. B. Fruit Exchange, Gold Buckle Navels, $1.95; Silver Buckle, $1.75; Belt Navel, $1.55.
Riverside Fruit Exchange, Globe Navels, $2.10.
A. C. G. Fruit Ex., Stag Navels, $1.75; Pointer, $1.70.
C. C. U. Redlands, Camellia Navels, $1.75.

NEW YORK, February 19, 1904.

C. C. U. Redlands, Lion Head Navels, $2.15; Tiger Head Navels, $1.70.
C. C. U. Riverside, Favorite Navels, $1.50.
C. C. U. Redlands, Rose Navels, $2.30.
C. C. U. Highland, Trophy Navels, $1.70.
Arlington Hts. Fruit Ex., Golden Orange, $1.55.
S. B. Fruit Ex., Silver Buckle, $1.85; Lochinvar Navels, $1.65.
C. C. U., El Cajon, Chasels Fancy, $1.75; Chasels Choice, $1.50.
Covina Fruit Exchange, Butterfly Navels, $1.40.
S. B. Fruit Exchange, Arrow Head Navels, $1.85; Carrier Navels, $1.60.
Covina Fruit Exchange, Red C Navels, $1.45.

BOSTON, February 19, 1904.

Riverside Fruit Exchange, La Mesa Navels, $2.30.
C. C. U. Redlands, Redlands Beauties, $2.10.
C. C. U. Redlands, Rose Navels, $2.30.
C. C. U. Redlands, World's Pride Navels, $1.70.
C. C. U. Redlands, Blossom Navels, $1.50.
Riverside Fruit Exchange, Lincoln Navels, $1.60.
O. K. Fruit Exchange, Bear Navels, $1.45; Coyote Navels, $1.55.
S. B. Fruit Exchange, Tiger Navels, $1.55.
S. B. Fruit Exchange, Carrier Navels, $1.40.
S. B. Fruit Exchange, Tiger Navels, $1.80.
Duarte-Monrovia Fruit Exchange, Violet Navels, $1.60.
C. C. U, Rialto, Minnehaha Navels, $1.70.
C. C. U. Redlands, Redlands Beauties, $1.55; Atlas Navels, $1.50.

NEW YORK, February 18, 1904.

C. C. U. Highland, Highland Navels, $1.50.
Covina Fruit Exchange, XX Navels, $1.50.
S. T. Fruit Exchange, Fame Navels, $1.35; Trail, $1.30; Canon, $1.20.
Covina Fruit Exchange, VV Navels, $1.40; Thompson's Improved, $1.85.
S. B. Fruit Exchange, Gold Buckle, $1.95; Silver Buckle, $1.75.
Riverside Fruit Exchange, Blue Globe Navels, $2.10.
A. C. G. Fruit Exchange, Stag Navels, $1.75; Pointer, $1.70.

Total to date this season, 7468 cars, of which 664 cars are lemons.

Total to same date last season, 5826 cars, of which 674 were lemons.

Warm weather has prevailed in all sections most of the week. In Southern California the rainfall was most timely, giving a fresh start to grain which had sprouted after the preceding rains, and greatly improving the condition of pasturage. With the customary spring rains it is expected that fair crops of grain and hay will be raised in most parts of the south. Grain continues in excellent condition in the central and northern sections, and prospects are good for large crops. Green feed is abundant in nearly all sections and cattle are improving.

Catalogue for 1904—The nineteenth annual catalogue of the Germain Seed Co. is just from the Kruckeberg press. It follows the custom of giving a large amount of information, besides the descriptive list of seeds and plants offered. For instance, the planting calendar and the reference table give at a glance the time of year when any particular plant or seed should be planted.

Besides the plants and seeds are descriptions and illustrations of garden tools and appliances. The poultry department is only given a page or two, as a special catalogue is issued for that department. The issue consists of 10,000 books.

* * *

Announcement is made of the retirement of D. M. Lord, president of the business of Lord & Thomas, advertising agents, Chicago. The firm has a long record in the advertising business and has built up one of the largest houses of its kind in the country. A. L. Thomas will succeed to the presidency and continue as head of the firm.

* * *

The Killifer Griffith Manufacturing Co. are now located in their new building on the south side of Palmetto street, Los Angeles, and for the first time have abundance of room for manufacture and storing of the Killifer cultivator and the various trucks, scrapers, subsoilers and other farm tools. The latest is a drill for drilling in wheat, barley or other grain. The two teeth of the cultivator, which loosens the ground are followed by the seed conductor, and the plowing, the seeding, the harrowing, are all done at once. Its simply the adapting of a seeder to the cultivator, but by putting on eight or ten horses most rapid work is done.

BRIGHT CELERY PROSPECTS.

The celery growers in Orange county are exceedingly happy over the prospects before them. The association of celery growers has just compiled a statement of the scope of the business which shows it to be in a most healthy condition. For November, 219,227 dozen bunches, selling for $32,000; December, 499,805 dozen, selling for $78,000; January, 404,293 dozen, selling for $71,400. This makes a total of 1,123,325 dozen bunches, selling for $181,200. This represents net cash to the growers after all the shipping expenses have been paid.

To a Times reporter Manager Curtis said recently:

"February will be the largest month of the season for the business. We are proud of this showing in the face of the scarcity of rain and our whole crop is taken care of. Much of it will go into cold storage in New York City to meet the demands of the summer business. Celery is often kept over a year, and comes out fresh and brittle. There are now 2500 acres of land planted to celery in what is known as the Westminster district, and almost all of the land favorable for planting has been taken up for next year. The statement of the shipments for ninety days which have been given do not take into account the consumption of the local market, which has probably amounted to forty cars. The Celery Growers' Association is now in its twelfth year, and is doing exceptionally well."

WINTER SPRAYING OPERATIONS.

The late rains have interfered with spraying operations in Pajaro valley to some extent, but the work is once more being prosecuted with due diligence. Orchardists are taking hold of the work with commendable zeal and spraying is being carried on on a much larger scale than last season.

Practical experience has demonstrated conclusively that in the case of scale the lime, sulphur and salt spray has no superior, and its use this season is very general. Not only is it used to great advantage in California orchards, but orchardists in Washington, Oregon, Idaho, Montana and throughout the Central West and East are applying it to their scale-infested trees with most satisfactory results.

The good work that is being done in this valley is a source of satisfaction to the Horticultural Commissioners and augurs well for the fruit interests of this section.—Panjaronian.

GIVE YOUR NAMES.

There are questions submitted to the Cultivator for answer from Anderson, Los Gatos, Rocklin and Elsinore, but in each case no name is attached. Let it be understood that no attention is paid to questions where no name is signed. The full name must be given, not for publication, but as a guarantee of good faith.—Editor.

The Imperial Date Company has ordered a consignment of Neglet Noor trees from Algiers, with which, in March, two acres will be planted. Later several thousand trees will be imported if conditions are favorable for the development of the business.

For Sale or Trade

Three hundred and twenty acres near Hemet, 50 acres under cultivation, balance pasture and bee land. Three springs, house, barn, chicken houses, yards, etc.

Ethel G. Smith **Hemet, Cal.**

ALIAS SUMMONS.

No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above brought against you in the Superior Court of the County of Los Angeles, State of Cali., this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles State of California, this 20th day of January A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk.

ALIAS SUMMONS.

No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk.

200-EGG HENS

And How to Get Them

Buff Orpingtons
Courtesy of Captain Mitchell,
Santa Barbara

You want 200-egg hens? Undoubtedly you do. There is a way to get them. In fact, you can make them out of your own flock of poultry. Why be satisfied with hens that lay only from 50 to 100 eggs per year, when you can have hens to lay 200 eggs per year per hen?

We have learned how to make 200 eggs per year hens and we can make your hens lay that many if you will GET THAT AMBITION and follow these instructions:

1st. Commence with the little chicks. They must be fed on the proper food to FULLY NOURISH THEM so that they can be developed into good layers later on. Therefore it is necessary for their future welfare that these chicks be fed on COULSON'S CHICK FOOD.

Now, of course, it is necessary also that you take good care of pour poultry at all times. Be sure to keep them clean and disinfect their houses with lice killer at least once a week. If you are willing to do this then you are willing to strive for 200 egg hens and we can help you with the SCIENCE OF POULTRY FEEDING.

2nd. The pullets and hens that you wish to develop into good layers and 200 egg hens: feed them a warm mash every morning of COULSON'S EGG FOOD. "No other kind is just as good." NO OTHER KIND is good enough; so if you want 200 egg hens it is necessary that the hens get COULSON'S food for then they get the PROPER FOOD.

At noon, at toward evening, feed the hens Coulson's Scratching Food (which is composed of wheat, corn, hulled oats, etc.) and give the hens plenty of green stuff and plenty of clean fresh drinking water, feed Coulson's food every day and you will develop a strain of 200 EGG HENS.

If your feed dealer hasn't got Coulson's Scratching food, ask him to get it for you. Send for circular describing it.

Many of the largest poultry farms in the county feed Coulson's prepared poultry foods exclusively and purchase it in car load lots.

Situated on the coast in Marin Co., overlooking the Pacific ocean is the 1000 acre ranch of John McDonald, who has, in connection with his dairy ranch, about 2000 hens which are being fed on Coulson's Egg Food. Only a few days ago we shipped him 200 sacks Egg Food and also 50 sacks of Chick Food to feed the thousands of little chicks which he is hatching out.

William Bassett, Tomalis; Geo. Gaston, Two Rock; and A. D. Rezendes, Tomalis; are other large poultry raisers who feed carloads of Coulson's feed.

You can get cheaper foods than Coulson's but they do not contain all the necessary articles and if you want to develop good layers and make the most profit out of poultry, feed Coulson's prepared foods; costs a trifle more than some other kinds but gives GREATEST RETURNS.

When you buy common feed you pay $24 or $25 a ton and it contains about 100 pounds of protein. Now, a ton of Coulson's Egg Food contains about 200 pounds of protein or in other words, there is as much protein (egg and flesh making substance) in ½ ton of Coulson's feed as there is in one ton of common feed. So you are making a great mistake if you don't buy Coulson's feed.

The season is now at hand when the majority of the poultrymen are hatching out chicks by the bushels and a great many are hatched to what sad end?

Have you ever stopped to think how many hundreds, perhaps thousands, of chicks you would have if these fine hatches would not die off so rapidly?

It is to our interest and our business to prepare a feed for little chicks so that the poultrymen can raise the most chicks possible and to have them grow fast and reach maturity quickly and be big, strong, healthy chicks, and we do not only believe, but we know that we have a Chick Feed that fills the bill perfectly and properly.

Only a few days ago we sent 30,000 pounds of this Chick Food to one party. Our Chick Food is used and recognized to be the best by the most thorough and up-to-date poultrymen and the largest poultry farms in California.

For instance, Purvine, Thoergesen, De Rezendes, John Marshall and others out in Two Rock valley, where the largest poultry farms in California are situated. These gentlemen all keep from 3000 to 7000 hens and they have to hatch thousands of chicks every year to keep up such large flocks. They have been in the poultry business for years and have had plenty of experience and tried all kinds of feeds and ways of feeding chicks, and they have now decided that hereafter they will feed Coulson's Chick Food exclusively until they get at least 6 weeks or 2 months old. They have found out that they can raise the most chicks and the nicest chicks on Coulson's Chick Food. These men use tons and tons of our Chick Feed.

Now, perhaps you will say that you are going to try a little millet seed or cracked wheat, rice or oatmeal, etc. But, my dear friend, don't you know that you can feed your chickens on Coulson's Chick Feed and it won't cost you a cent more and that in Coulson's Chick Feed there is a variety of 20 different kinds of grains, seeds, meals and containing everything not only to fully nourish the chicks and make them grow to be big, healthy fellows, but also contains articles that will check and prevent bowel trouble and other fatal diseases.

We are just in receipt of a letter from a poultryman in Windsor who says that he raised 550 chicks on Coulson's Chick Food and at the age of 2 months he sold the broilers for $3 a dozen on the place.

We have White Minorca chicks ourselves that are only 6 weeks old and weigh about 2 pounds apiece.

In conclusion, will say that for your benefit as well as ours we hope that you will raise all your chicks this year by feeding them Coulson's Chick Food.

It your feed dealer hasn't got it, send to us for it.

THE FEED
FOR
Little Chicks

$25 in Gold

We want pictures of chicks and hens that have been fed on Coulson's Poultry Foods and we offer $10 IN GOLD for the best picture of little chicks fed on Coulson's Chick Food.

$5 IN GOLD for the second best picture of little chicks.

$5 IN GOLD for the best picture of hens or poultry that are fed on Coulson's Food.

$1 each for the next 5 best pictures of poultry.

A package of KALE SEED free to everyone who answers this advertisement.

Address Prize Department,
A. R. Coulson Co.
Prizes awarded 1st of May.

If Your Grain Dealer Hasn't It, Send to

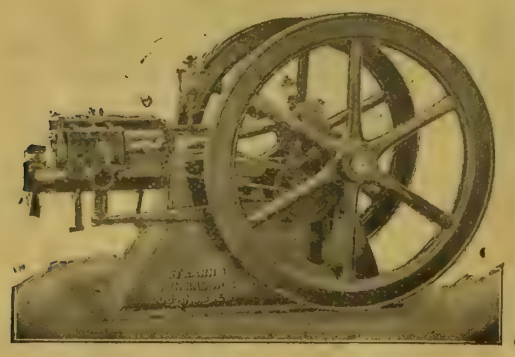
THE A. R. COULSON CO.

Incorporated. Manufacturers of Poultry Foods and Remedies.

PETALUMA - CALIFORNIA

FOURTEENTH YEAR

OF BUILDING GASOLINE AND DISTILLATE ENGINES



Buy Our 1904 Model

SIMPLE, DURAALE, RELIABLE
NOT SO COMPLICATED
AS OTHERS

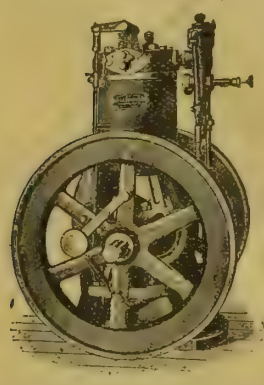
Complete Pumping Plants Installed

Power Spray Machines with 2-H.P. Engine

Wood Saw and Horse Power Outfits

STEARNS GAS ENGINE WORKS

1001-3-5 NORTH MAIN ST., LOS ANGELES, CAL.



BATES & EDMONDS GASOLINE ENGINES

SIMPLE
SUBSTANTIA
ECONOMICAL

SIZES:
1½, 2½ and 4 horsepower

For prices call on or address

E. B. STUART, AGENT,
111 SO. BROADWAY, LOS ANGELES

P. & B. Malthoid Roofing

Put up in rolls 36 inches wide, with fixtures

Acid, Alkali and Water Proof; all ready to lay. Will not deteriorate with age

The PARAFFINE PAINT CO. 313 No. Los Angeles Street
Write for samples, prices and booklet Los Angeles, Cal.

The Los Angeles National Bank

OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES
Capital $500,000. Surplus and Undivided Profits, $275,000

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Wm. H. Hoegee Co.

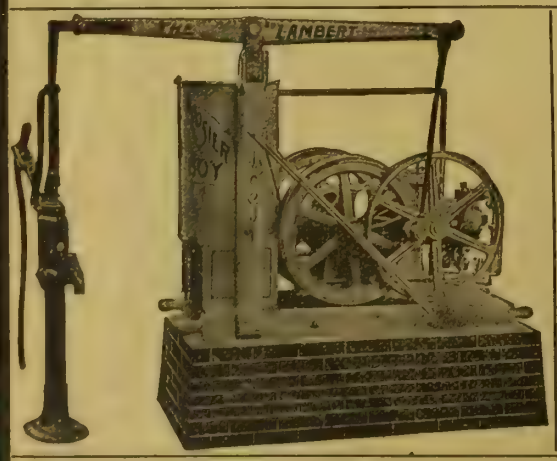
MANUFACTURERS OF

Lemon Curing Tents, Fumigating Tents, Fruit Picking Bags, Canvas Irrigating Hose and Everything in Canvas Goods at Factory Prices . . .

Write for further information. Send for catalog.

138-140-142 S. MAIN ST. LOS ANGELES, CAL.

"THE HOOSIER BOY"



FOR the Farmer; for everybody. A power that never fails. Regardless of weather it pumps water, grinds feed, churns butter, saws wood, separates cream, and does a hundred other things that you can't afford to waste your valuable time on, always reliable. A perfect pumping outfit on the ground. Works when you want it.

One and a Half Horse Power

Wholesale and Retail Dealer in Lambert Distillate & Crude Oil Engines, Aeromoters, Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants.

S. J. Smith Machinery Co., Inc.

129 N. LOS ANGELES ST. LOS ANGELES, CAL.

NATIONAL WOOD PIPE CO.

(Incorporated)
Manufacturers of

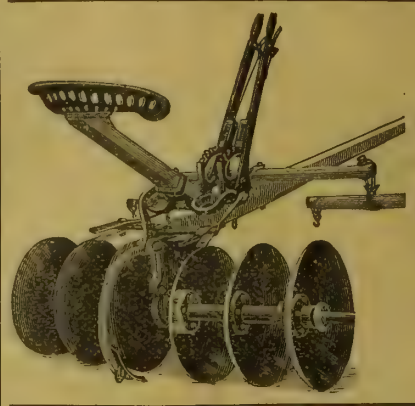
REDWOOD WATER PIPE

From 3-inch to 10-feet in diameter
For.....
WATER WORKS,
MINING AND
IRRIGATION PLANTS

CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can easily be taken up and relaid, as it is absolutely indestructible. ALL PIPE SOLD UNDER AN ABSOLUTE GUARANTEE We contract for complete irrigation systems. Illustrated catalogue sent on application.

Address NATIONAL WOOD PIPE CO.,
Cor. 6th and Mateo Sts. Los Angeles, Cal. 301 Market St., San Francisco, Cal.



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FRESNO AGRICULTURAL WORKS

FRESNO, CALIFORNIA

TO THE EAST IN A TOURIST SLEEPER

That's the title of a booklet that any Santa Fe agent will be glad to furnish you. Tells all about the comfortable way to travel on that Eastern trip. These sleepers run every day, and on three days a week are personally conducted, Santa Fe Conductors accompanying them to look after ladies and children and the infirm. Berth rate in these sleepers is one-half the first-class.

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THOMAS' PHOSPHATE POWDER

The Fertliizer of the Age

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For prices, analysis, etc., apply to

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Patent NON-SHRINKING Water Tank

The only one suitable for dry, hot climate
Costs no more than common
Write for Catalogue and estimate on any kind of Tank and Silo Work.

PACIFIC TANK CO., Sole Manufacturers
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Tree Spray Distillate

Not an emulsion of oil and caustic soda, but a special distillation of oil from which all asphalt and other deleterious substances have been removed. Mix with water and apply with spraying apparatus that gives a thorough and constant agitation to the liquid—when properly done we guarantee that it will destroy all insect life attacking either citrus or deciduous fruit trees and not

Spot Fruit or Hurt Tree

Cheapest and Best Insecticide. We also manufacture Gas Engine and Stove Distillate, Lubricating Oils, Etc. We solicit your correspondence and orders.

SOUTHERN REFINING CO.

P. O. Box 9, Station C. Los Angeles, Cal

California Cultivator

LOS ANGELES SAN FRANCISCO

MARCH 4, 1904

SOME HOMELY CONTRIVANCES FOR THE POULTRY YARD.

IN THIS ISSUE: Decay of Citrus Fruit in Storage and in Transit; Successful Spraying; Cover Crops; Melons Mixing; Cow Peas in Walnut Groves; Eucalypts for Timber; The Largest Trees; Dairy Bulls; About Feeding Poultry; Interviews with Poultry People.

CIRCULATION EXCEEDING 10,000

MIDLAND POULTRY FOOD

Will make your fowls moult in one-half the time, which means they will lay that much sooner. "Laying fowls are paying fowls." You will not be disappointed at the results you get from feeding Midland Feed.

No. 4, Egg and Feather Producing Food

Is what you should feed your hens now, and the results you get will surprise you, for we know it will prove a paying investment. Our book, "The Science of Poultry Feeding," will tell you more about this feed. Send for it. It is FREE. Also

No. 1, Nursery Chick Food
No. 2, Growing Chick Food

We will be pleased to give you further information about this feed if you wish it. WRITE FOR PRICES.

The Only Reliable Balanced Ration for Poultry in the World.

These special foods are composed of the very best materials obtainable and as carefully and accurately mixed as it is possible to make them. They are a COMPLETE FOOD and will produce specific results, each for its purpose, and no other. We want you to become an established customer of ours. We want your trade, be it little or much. There is only one way we can secure it and that is by sending you material that will do what we claim for it.

The Midland Feed will cost you very little more than any good grain you now feed, and no more than you now expend for all the extras you must use in addition to your grain, and the results will be so far in excess of any previous experience you have had that you will readily acknowledge its value. What the poultry man must be able to count on to a certainty is RESULTS.

The following buy in carload lots and act as our distributors in their respective localities, supplying the dealers and consumers:

FREDERICK BROWN, San Jose, Cal.
KUTNER GOLDSTEIN CO., Fresno, Cal.
P. C. FREDERICKSON, Fruitvale, Cal.
J. T. STONE, Haywards, Cal.
LILLY, BORGARDUS & CO., Seattle, Wash.
PETALUMA ROCHDALE ASSN., Petaluma, Cal.
PHOENIX MILLING CO., Sacramento, Cal.
HENRY ALBERS, Los Angeles, Cal.
LUBBEN BROS., Alameda, Cal.
PORTLAND SEED CO., Portland, Ore.
SANTA ROSA ROCHDALE CO., Santa Rosa, Cal.
GEO. P. McNear, Petaluma, Cal.

Petaluma Incubator Company

Pacific Coast and Trans-Pacific Agents

Main Office and Factory, Petaluma, Cal. Eastern Office and salesroom, Indianapolis, Indiana.
San Francisco Office and Salesroom, 33 Market Street.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 10 LOS ANGELES, CAL., FRIDAY, MARCH 4, 1904 Subscription $1 a Year

SHORT INTERVIEWS WITH CALIFORNIA POULTRY PEOPLE...

If there ever was a year in which interest in poultry as a means of livelihood was increasing it is certainly this one. On all sides the worth of the thrifty hen is more realized and we believe the increase will be far in excess of any other year. Feed was never higher, but at the same time the price of eggs and of dressed poultry has been on a much higher average than usual. This high price and the keen demand has induced the importations of large quantities of both live and dressed poultry and eggs from the Middle West. And still prices are up. All say that the poultry business can not be overdone and it certainly looks it, for the demand is ever increasing.

One small community of this State—Petaluma—last year produced almost three and a half million dozen eggs and 32,535 dozen market poultry. Three and a half million dozen is too big a number to fully appreciate, so we reduce to carloads and train loads to better grasp it. It would make, approximately, 300 carloads, or twenty long train loads of eggs. That's only one small community, thirty miles north of San Francisco. Its the biggest poultry section in the world, yet there are many others over the State which are fully as well adapted to poultry raising.

It has been the pleasure of the writer to visit Petaluma several times during the past year and each time the thrift and prosperity of the town and surrounding country are more apparent. We believe this will ever increase.

Nor is Petaluma all. San Jose, Santa Barbara, Fresno, Los Angeles, San Diego—the whole State can show some magnificent stock.

Within the past few days we have seen many prosperous little ranches about Los Angeles. That of G. I. Lytle, for instance, is a model. Ten acres, some three or four miles south of Los Angeles, two thousand fowls, four standard breeds,—Single Comb White Leghorns, White Wyandottes, Black Minorcas and Barred Rocks. The ten acres is proving too small and Mr. Lytle is now looking for larger quarters. He maintains that each fowl should have at least 200 square feet range and the generous runs with the always healthy poultry, shows the reason for his belief. The runs are so large, in fact, that alfalfa is constantly growing over the yard and more rapidly than the poultry can eat it down. Mr. Lytle started in the poultry business in Los Angeles some five or six years ago and has built up a magnificent business.

At first it was along commercial lines, but now is almost entirely devoted to production of eggs for hatching and thorough-bred poultry. The income is now running about $500 per month.

Hatching is mostly by incubators, though not entirely so. Two incubators are running constantly. When the natural method is followed, a convenient and inexpensive little pen and coop is provided for the mother hen, and she is permitted to go and come as she pleases.

In feeding the simplest methods are followed. The balanced ration is secured by change in diet of various grains. Whole grain is fed almost entirely. The feed on Sunday is wheat; Monday corn; Tuesday, wheat; Wednesday rolled barley; Thursday wheat; Friday corn, and Saturday oats. That is the ration for the layers and requires about a sack of grain a day. No mash is fed but beef scraps, bone and grit are before the hens all the time. The principal diet of the young chicks is skim milk and whole wheat.

Another ranch visited was that of Packard & Ingalls at Pasadena. The production there is purely along commercial lines. Broilers and eggs for family trade. Six thousand to 9000 chicks are hatched annually and the incubators are running about eleven months every year. Private families of Pasadena take all the output of the ranch. The eggs are sold at five cents above market and delivered in boxes containing one or two dozen eggs with date stamped on each egg. The broilers are sold at 50 cents each and are grown to one and a half or two pounds each. There is also a limited trade in "squab broilers," a little half pounder, nicely dressed and more as a delicacy for invalids, also sold at 50 cents each. There are many wealthy families in Pasadena which are liberal buyers of the finest and it is that trade which Packard & Ingalls cater to, one family alone often incurring a monthly bill of $95.

Mr. Ingalls informed us that the Single Comb White Leghorns were depended upon for eggs through the season and Barred Rocks and Langshans are used to supply winter eggs when Leghorns are shy with their laying. No cocks are admitted to the yards which supply the bulk of the market eggs. No hens are used in breeding yards under two years of age. There are about 1000 laying hens.

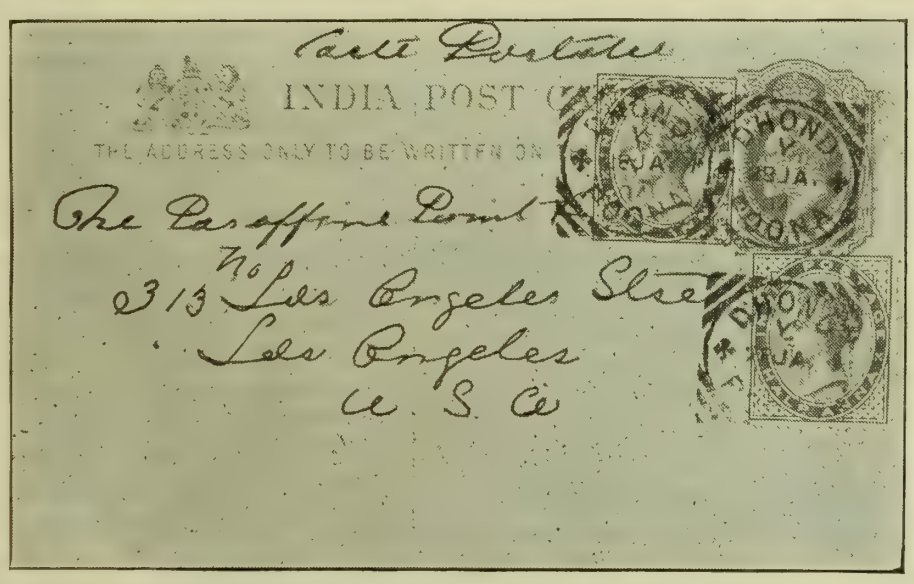
Some caponizing is done and has proved profitable. More will be done later. Capons command 40 cents per pound and a Barred Rock capon will easily reach ten to thirteen pounds.

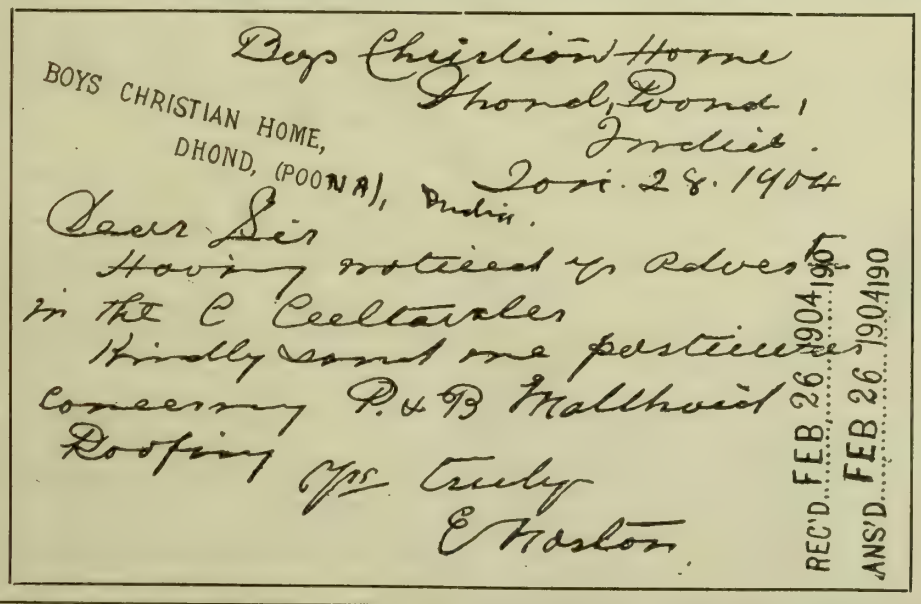
The saving of the wastes are quite a source of profit. For instance, the droppings are always carefully cleaned up, dried, sacked and sold at Los Angeles fertilizer factories at $10 per ton, the monthly income from this source alone amounting to about $10. The feathers are all dried and readily sold at 5 cents per pound. This shows that the poultryman is one ahead of the pork packer, for of his thrift it is said every bit of the hog but the tail and the squeal is saved, while the poultryman saves all but the crow. Some growers of young stock even save that, and use it when referring to their own breed.

Near the ranch is that of J. L. Harrison, of the Lake Avenue poultry yards. Mr. Harrison is just getting established in his present quarters, only having been on the grounds about a year. The cozy home cottage, with neat grounds, is flanked by the garden where kale, Swiss chard and others greens for poultry are grown, while in the rear are well built yards and houses for the poultry. The houses are 5x16, with shed roof, partition, either side of which is room for a dozen hens. The economical building is a factor. Mr. Harrison purchased inch lumber, which he had resawed, leaving it nearly half inch thick. The resawing cost

(Continued on Page 232.)

The Cultivator is Read Everywhere...





Does the Cultivator get results for its advertisers?

Does it circulate in a wide enough territory and to an extent to justify paying good rates for space in its columns?

Recently Mr. Harry McIntire, the Buff Cochin breeder of San Diego, wrote us that "The Cultivator beats all mediums in California for my business."

But that's near home, of course, and most of his customers are in California.

But a few days since a Los Angeles advertiser received a card from Dhond, Poona, India. Now, the Cultivator was aware that it was reaching India, also that it has subscribers in Japan, South Africa, England, Mexico, Australia and many of the islands of the Pacific, but that advertisers get returns from those distances has never been used as an argument with its patrons.

But recently Mr. Judah of the Paraffine Paint Co., Los Angeles, showed us a postal card, an illustration of which appears alongside.

The P & B. Malthoid Roofing has had its fame extended by several years' use of the Cultivator and its popularity is justly increasing, but this inquiry from Mr. Norton, one of our subscribers, is the first from far-off India.

Moral — If you want the merit of your wares to be known world wide—but the keen business man who knows the Cultivator, needs no moral

CALIFORNIA CULTIVATOR

ESTABLISHED 1880
PUBLISHED EVERY FRIDAY
AT
203 New High Street, Los Angeles, Cal.
Room 416, Hearst Building, San Francisco, Cal.

BY CULTIVATOR PUBLISHING CO.

J. J. STEADMAN, EDITOR

C. B. MESSENGER, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, March 4, 1904

GIVE YOUR NAMES.

There are questions submitted to the Cultivator for answer from Anderson, Los Gatos, Rocklin and Elsinore, but in each case no name is attached. Let it be understood that no attention is paid to questions where no name is signed. The full name must be given, not for publication, but as a guarantee of good faith.—Editor.

JERSEY BREEDER'S MEETING.

The annual meeting of the Jersey Breeder's Association of Southern California will be held at Buena Park on the 8th and 9th of March. The first day will be devoted to business and the second day to program and discussions. A full attendance of all members is desired as the meeting will be of unusual interest.

ITEMS OF INTEREST.

The Pendulum Still Swings—Among the many indications pointing to a prosperous year for California is the manifest activity in railroad building. Great corporations are the pendulums of commerce and business. When the country prospers this prosperity is evinced in the progressive movement of the railroads. When times are close and money is locked up in vaults we do not read of much railroad expansion. In this State one great line, the Santa Fe, has been purchasing roads in Humboldt and adjoining counties to seek an outlet to the coast. It is announced that construction on the Salt Lake and Los Angeles road will begin soon and be vigorously pushed to completion. The Western Pacific has laid out much work of an important character. The Sacramento Union announces " a further extension of the California North-western, by which route it is held the Southern Pacific will eventually reach Humboldt." Other important construction is talked of, and the indications are good all along the line for a notable railroad-building year in this State. This alone is indicative of enterprise and prosperous times. There may be pinch of conditions in the eastern States, but the Pacific seaboard knows not of them and won't during the year 1904 at least.

* * *

In line with the improvement and extension of transportation companies in this State, noted above, is the development of the irrigation industry—if it may be so designated. From all parts of Southern California come reports of decided improvements in irrigation plants already in operation, and the development of districts heretofore without this essential condition. The Chino Champion, for example, notes the conservation and economic distribution of water by the use of cement pipe lines, where heretofore water was unevenly distributed and much of it lost in effect from lack of distribution pipes. Now farmers are laying their pipes in all directions and greatly improving existing plants as well as developing new ones.

It goes without saying, that this will vastly augment the value of these lands as well as add to their productive power, for in a country where water is king, as it is in California, every inch saved is hundreds of dollars gained in the wealth of the State.

* * *

Colonizing Montana.—Word comes from Montana that a number of the late Boer commanders, among them Gen. J. D. Joubert and Capt. W. A. O'Donnell, have been looking over various sections of that State with a view to finding an easily irrigated location where a large Boer colony can be established. The Boers desire to homestead upon government land which can either be irrigated by their own cooperative canal building, or else will come in under the government irrigation work projected in Montana. They have expressed themselves as amazed at the opportunities afforded by the rich valleys of Montana for their people, and it is stated that they will recommend the State to their compatriots.

* * *

Protecting Shade Trees.—We all know, and some of us to our mutual anguish, the vandalism wrought by companies using wires to convey currents of electricity. We know, too, what the measure of damages is to those whose trees are ruined. To remedy this condition, to save the trees from disfigurement and often ruin, Dr. S. M. Woodbridge, an authority on shade trees, and their culture, makes the following suggestions, whereby no electric company could be put to much, if any, extra expense and whereby the shade trees would be preserved in their natural beauty and full usefulness.

"If small poles (say 35 feet high, at a cost of about $4.50 each, instead of poles 60 feet high, at a cost of about $14.00 each) were placed on each side of the street, opposite each other and connected by cross wires in the same manner as trolley poles are now connected, and if on these cross wires were carried the electric light, power, telegraph and telephone wires, the same as trolley wires are now carried, the shade trees could be preserved and the hideous sight of big poles with their more hideous cross-bars avoided.

Along city street and country roads where trolley cars run, the companies operating them should be compelled, for a consideration, to carry on their cross wires all other electric wires, thus saving a multiplicity of poles that disfigure our streets and roads.

* * *

Wide Spread Importance.—One of the most far reaching decisons handed down by the Supreme Court of this State for years, is the one recently announced wherein the owner of an artesian well sought to enjoin a neighbor from operating wells for the purpose of supplying water to a distant tract by which the flow of the first well was stopped. The court held that the diversion and sale of the underground water was an injury to the plaintiff which the courts would prevent and this decision has been reaffirmed after another hearing.

So great is the import of this ruling that the principle on which the court announced its decision should be well understood, to the end that the doctrine now well settled may not be misunderstood in future, nor misapplied by those who have thought it within the province of law to divert water from its proper channel to the injury of dependent parties.

"The general principle laid down by this ruling is one of great importance, not only to California," says the Irrigation Age, "but to all countries where artesian wells are used for irrigation." This decision abandons the common law doctrine that the owner of land has an absolute right to all the waters lying underneath it, to dispose of them as he pleases without regard to the rights of adjoining property owners. The point of the decision is that a land owner who has used percolating waters upon his land has paramount rights to those of a subsequent appropriator who takes the water to distant lands.

It will be observed also that the holding of the court is important in another point. A land owner who is using artesian or underground waters will not be permitted to stop the flow of his wells by drawing off the water for sale. If he is using the water for irrigation, he is not entitled to a larger quantity than is necessary for his own use.

Mr. Justice Shaw, who delivered the opinion for the bench, settles another point in water right contention, viz.: that "might is not right," nor ability to destroy the property of another immune from legal reparation. In brief, the doctrine so well laid down and so thoroughly expounded will for all time protect the right of a land owner to the uninterrupted use of the waters under his own land for the purpose of making that land productive and will not allow an avaricious neighbor at a distance to deprive him of it. The sound logic and hard common sense contained in this ruling will be commended by honest men everywhere.

To Get Reliable Work Hands.—In a preceding article the Cultivator mentioned some of the causes which lead to the scarcity of reliable farm help, especially in the Pacific States. It was mentioned that the full measure of compensation did not wholly lie in the wages paid, but also in the provisions made for the comfort and well being of the employe.

The climatic conditions here tend to perpetuate the customs of the earlier pioneer days, when but little attention was paid to the wants of the farm hand, because it was thought that he could look out for himself as easily as could the miner, the sheep herder or the cow boy. It should, however, be borne in mind that the change in conditions have increased the needs of all of us. In the matter of creature comforts one person needs about as much as another, no matter whether these needs are real or artificial. A clean place to eat, a warm place to sleep, however simple and plain it may be, should be provided. The promotion of personal comfort begets a feeling of personal respect. A man who has a decent respect for himself is apt to have something of that kind for others. A considerate attitude towards one's employes is pretty sure to awaken in their minds an interest in the work they have in hand. They will heed admonition more readily, comply with requests with better grace and perform their tasks more efficiently. Tactfulness as well as principle should be employed in the management of men. The more intelligent a man is, the quicker will he perceive and respond to any show of consideration for him by the foreman or employer. Others of less intelligence are apt to follow by example. The day for the treatment of farm hands as a boat mate treats the stevedore, or in the abusive manner of the gang boss toward the hoboes on railroad or other common labor, has gone by. The incitement to self respect, the encouragement of sobriety, the provisions for personal comfort and the recognition of efficiency, will all tend to promote reliability and content, and, further, to inspire a proper ambition on the part of the farm hand to become settled. Might not such a show of consideration serve to increase the numbers and efficiency of good farm laborers from the East, and to lessen the demand for Chinese and peon field hands? By the exercise of proper tact and rational methods, it would seem that the standard of American farm help on the Pacific slope could be raised to a more satisfactory plane.

The Chicago Packer says on Februarry 27: An auction company for the handling of California citrus fruits has been organized by the members of the St. Louis Fruit & Produce exchange and the new concern is expected to be in readiness for the transaction of business soon. The new concern, which is to be known as the American Central Fruit & Produce Auction Co., has practically arranged to handle the products of the California Fruit agency and will thus do away with the proposed auction company that the California fruit people were contemplating establishing in this market.

AUSTRALIAN AND ITALIAN RYE GRASSES.

In a recent number of the Cultivator the request was made to give the difference between Australian and Italian rye grasses. A subscriber from Arcata, who has had experience with these grasses, makes the following answer:

The Australian rye is a shorter and finer grass than the Italian rye, and is perennial, making a very good permanent pasture, but does not produce the amount of hay. The Italian produces abundantly for two years, then dies. Our native rye or cheat, combines the virtues of both grasses and cannot be distinguished from the Italian rye. It is a perennial, and a persistent and abundant grower, making the best of pasture and hay.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

COMMISSION BUSINESS WANING.

For years the Cultivator has discussed the fruit commission business from the premises that, as at present conducted it is not altogether beneficial to the producer and hence the existence of this means of handling perishable products is a legitimate subject of discussion as to its continued encouragement. This journal has not held that the failure of commission merchandizing is chargeable altogether to the inefficiency or dishonesty of the individuals engaging in it but rather that commission dealing as practiced and as can only be conducted is founded upon incorrect business principles if not upon fundamentally impossible plans. In this view we have lately been reinforced by an article written by J. S. Crutchfield, himself a prominent commission dealer of Pittsburg. Mr. Crutchfield bases his paper upon the assumption that the commission business is on the wane. He begins by asking, "Is the exclusive commission man now extinct?" He says a large majority of the members of the National League of Commission Merchants are both commission men and dealers and that they are compelled to speculate in the same lines of fruits they handle on commission. Those readers of the Cultivator who are following the trend of the work of fruit marketing this strenuous season should fix this proposition in their minds, turn it over occasionally and see what the fruit grower would be up against were his own marketing organization wiped out of existence.

"It never was, nor is it today," says Mr. Crutchfield, "a small matter to ask the farmer who toils incessantly, to entrust the fruit of his labor into the hands of a commission man, hundreds or thousands of miles away, where he has no security aside from the reputation of the said commission man, that he shall receive full and honest returns, or in fact anything from the sale of his property. The very existence of the producer and his family is at stake against what most people think is merely the reputation of the commission man."

"God has decreed" continues the article, "that whatsoever a man soweth that shall he reap, and the inference might be drawn that the commission men, whose business is on the wane, are only reaping what they individually have sown. Such is not always the case, but that unfair dealings with the producer by many commission men have been an important contributary cause of the general decrease of commission business no one will deny."

Such words as these should sink deep into the understanding of the co-operators now known as the California Fruit Agency. First, the commission dealers are also speculating merchants; second, the commission system is so handicapped by doubtful methods of procedure as to call for an emphatic protest from a member of the National League of Commission Merchants before a meeting of that conservative body. In the face of this testimony, and the experience of ten years ago, how can anyone with the lasting interests of our fruit growers in view, advocate disorganization or even any change in the present system of marketing that does not contemplate the holding together of the growers intact? Some people who still believe in f. o. b. sales think the spot cash buyer should be allowed to figure in the situation. Where is he? Who is he? What are his methods when he does operate? Mr. Crutchfield says he is often moneyless—this "spot cash buyer." Often under his buying plan he causes the producer to issue a sight draft upon the said cash buyer (himself) "which no bank in the country will take for fifty, twenty-five or even ten cents on the dollar." Thus will disappear upon trial all the old, discredited methods of handling the citrus fruits of the States.

CITRUS FRUITS

DECAY OF CITRUS FRUITS IN STORAGE—IN TRANSIT.

The following exerpts from a paper read before the Pasadena Farmers' club, last week, by T. J. Ashby, manager of the Pasadena Lemon Growers' Association, will be found of interest to the citrus readers of the Cultivator. After noting at length the many methods used by nature in forming, maturing and disseminating seed, the writer says:

"It should be needless to point out to a thinking mind after seeing the intelligent process of forming," to say that a plucked fruit has still within it the elements of life, and that its natural bent is to continue maturing until further effort is hopeless. The early cut grain matures its seed after the disaster of cutting, the pulled weed matures its seed, as we note, while we collect it for burning. The forehanded and observant farmer gathers his seed corn early, for he knows such seed germinates sooner and stronger than the ripened corn, subsequently gathered, that has put its energy into the further formation of starch, and so our fruit after gathering, goes on ripening its substance, and maturing its seeds.

As it is our object to restrain this maturing, the Italian method of gathering fruit, especially lemons, with some four inches of stem or twig, is a scientific method, and life within the fruit will be longer preserved. When this life tendency is exhausted, or by rude handling, destroyed, decay follows, that is, chemical disintegration follows death.

This to the grower means loss, but to the by-product manufacturer or distiller who takes up this disintegration of substances, it means gain. They utilize the various ferments developed and convert them into commercial enterprise, be it wine, alcohol or vinegar. Where we attempt to preserve the life they purposely destroy it, and then by hydrostatic and thermal conditions ripen the pulp and engender yeast germs and ferments. Even here nature's methods of balance are clearly defined, for if enough saccharine matter, such as dextrine, glucose or other sugar formatives are in the substance, enough alcohol is formed to be a self-preservative, but if lacking, oxygenation sets in and the substances must be bottled or allowed to turn into vinegar.

It is still true that we need not expect good fruit from an unhealthy tree, or poor fruit from a healthy one. So the first need of a healthy tree is to have a healthy, intelligent friend who will care for its needs, study its beautiful system of development and keep it up to its best. The best demands the local application intelligently applied of the best methods of irrigation, fertilization, destruction of insect pests and of cultivation so that indeed it may appear "as a tree standing by the rivers of water, bringing forth its fruit in due season."

The best keeping fruit is the one that has a regularity of development, whose cells are of uniform formation. Alternate times of plenty and starvation, irrigation and drouth, may form the countryman's ideal of fat and lean in bacon, but it will spoil the keeping qualities of a fruit. Steadiness of purpose is a tree's ideal.

Once in the warehouse, brought with the least jar, the cleaning should be done at once, as the fruit with relaxed pores from wilting, will not resist moisture. The various degrees of maturity should be graded to themselves, and any chilled or frosted fruit disposed of at once. Concerning the appliances for cleaning, gently tap an orange or lemon with a brush and the pungent odor of escaping oil will tell at once if it is damaged. Such a fruit, or one abraised or knocked against the edge of a picking box, placed under a bell glass with moisture, and set in a warm place, will soon decay. So watch the results of brushing.

Of the warehouse applinaces, the foot press for holding the lid on a packed box when nailing, is, under a careless manipulator, a great cause of decay. You may often see, when a car is being loaded, several oranges or lemons with papers torn, and a bruised surface where the edge of the box or lid has crushed it. The Italians will have none of it, they carefully use knee and hand, carefully pressing the bending boards on the bulging fruit so that none are bruised by nailing down lids.

The only mechanical chances of damage from a foreign shipment is when the boxes are slung together by ropes and lowered into the steamer's hold. Our own steamers use the same method and is destructive and other methods should be enforced. In the loading of cars, if the advice of the S. C. F. Ex. were carried out in lining the car with heavy paper and raising the boxes from the floor with car strips, the frequent loss of "frozen in transit" would be greatly reduced or avoided.

In speaking of mechanical difficulties, one might add the long time in transit; this, however, is more of a moral difficulty, for the trouble is largely in the transportation department wanting to make a good showing, as slow time means economy of power, so they put a financial gain against the growers' heaviest damage by decay. Eight cars, going to Cleveland, Ohio, during the past year, took seventeen to twenty-three days with an average of nineteen. Ten more days would be the average time from San Francisco to Australia, our natural outlet for winter lemons (our winter being their summer) and a steamer the natural competitor to correct railroad apathy.

* * *

First, a cleanly warehouse and cleanly cars. In apple packing, the second or third season is often a veritable calamity of decay, if fumigation of buildings is not accomplished. And it must be the same with the orange and lemon.

Secondly, a complete system of ventilation, carrying away the gases of decomposition, carry away excess of moisture, use the hydrometer more than the thermometer. It is in humidity that the danger lies, dry warm air will cause shrinkage, but not decay, in undamaged fruit. In sterilizing our cars and packed fruits we have tried formaldeheyde with marked success when used with steam. Unfortunately we turned to simpler methods, evaporating from sheets or making the vapor direct from wood alcohol, with little result. Eight or ten ounces of formaldehyde with some sixteen ounces of water, simmered on a gas stove, will in three hours penetrate completely through the packed boxes in a car, and without damage sterlize the wrapping paper, and we believe the spores. It cannot, however, stay chemical decomposition within old fruit. The four cars so treated held up in better condition than those untreated.

We are now experimenting with wrapped and unwrapped fruit, and with loose fruit in different packages treated and untreated with formaldehyde and steam and look for important results.

Our summary of methods best suited to eliminate decay from citrus fruits would be:

Orchard methods to induce uniform development from blossom to picking.

Picking methods that give the least possible jar, punctures or abrasions.

Warehouse methods that maintained intact the delicate rind, allowed the right evaporation, the least precipitation of moisture, the right thermal condition and conserve to the longest period the lingering life of the fruit.

Transportation methods in the best cars suited for refrigeration, methods that did not transgress on the rights of the people they serve, or trample on the intent of the contracts for charges based on rapid transportation of perishable freight, and,

Lastly, selling methods that would bring the grower closer to the consumer and give the greatest number the advantage and opportunity to sell right and buy right."

GRAFTING PERSIMMONS.

A local fruit grower has asked us how to graft persimmon trees, he never having had any success, either in grafting or transplanting. Persimmon trees are easily grafted, the process being similar to that employed in grafting other trees. Young seedlings are better grafted just below the surface of the ground. Split the stump and insert the scion so that the inner barks will match. It is better to tilt the scion slightly after the barks are as nearly matched as possible, thus insuring a perfect match at some point. Wrap with waxed string or cloth and mound up to the top bud with dirt. After the scion is growing nicely, remove the waxed binding and press the soil firmly around the top of the stump.

It is important to keep the roots of all trees from drying while transplanting them. Persimmons are no exception. If they die after careful handling it must be a case of predestination.

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LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

EUCALYPTS FOR TIMBER.

A Chicago correspondent writes concerning the planting of nineteen acres to Eucalypts in sandy soil along a river near Orange, and asks whether it would be advisable to plant Blue Gums, Red Gums, or Sugar Gums.

A Los Angeles correspondent writes that he intends setting to Eucalypts 120 to 320 acres in the El Cajon valley, about fifteen miles from the ocean, part of it the bed of the San Diego river. He describes the soil of the low land as a sedimentary silt composed chiefly of sand, vegetable mould, decomposed granite, and disintegrated volcanic matter, the water rising to within ten to eighteen feet of the surface. The higher lands are twenty to fifty feet above the water line, part a red clay soil, and part a chocolate adobe. The climate he describes as very equable, light frosts sometimes occurring in the lower levels. He asks the following questions:

1. What kind or kinds of Eucalypts would you recommend; at what age would each species be marketable (if thoroughly and properly cared for) and for what purpose?

2. Which of the above described soils is best for the species you advise?

3. At what age would Blue Gum probably reach the size of standard piles, viz: twelve inches in diameter at butt, and eight inches forty feet from butt, there being trees of this species on this land, reliably stated to have been planted seven years ago that are thirty-four inches in circumference three feet above the ground?

4. What species would you think likely to bring the best returns in ten or twelve years?

5. How far apart should the different species be planted? Is six by eight feet too close, if every second row is cut out when they begin to crowd?

6. Where can I get the best seed?

* * *

Besides the Blue Gum, which has been planted in such a variety of situations, there are at least two Eucalypts that have proven to be adapted to Southern California that can be recommended for timber culture in low lying situations, and at least two that for similar reasons can be recommended for higher situations.

Eucalyptus rostrata and E. citriodora are naturally adapted to warm, moist situations, the former enduring temperatures as low as 20 to 24 degrees in winter, and the latter being injured by temperatures much below 30. E. corynocalyx and E. tereticornis are especialy adapted to dry situations, the former enduring temperatures of 24 to 26 degrees, and the latter surviving when the mercury falls to 16 to 20 degrees.

The Blue Gum ordinarily attains a large enough size to be cut for fuel and for oil within six years; and large enough for piles in ten or twelve years if not planted too close. E. rostrata reaches a large enough size for fence posts in five or six years, for railway ties and for telephone poles in eight to twelve years, and for lumber in twenty to twenty-five years. E. citriodora becomes large enough for material for agricultural implements in ten years, for telephone poles in ten to fifteen years, for material for carriages in fifteen to twenty years, and for lumber for inside use in houses in twenty to thirty years. E. corynocalyx becomes large enough for fence posts in four to six years, for railway ties and telephone poles in eight to ten years, and for lumber in twenty to twenty-five years. E. tereticornis becomes large enough for fence posts in four or five years, for railway ties and telephone poles in eight to ten years, and for lumber in twenty to thirty years. On the lower levels E. rostrata might be expected to bring the best returns in ten or twelve years, and on the higher levels E. tereticornis. It is difficult to safely give an opinion, however, so much depends on circumstances.

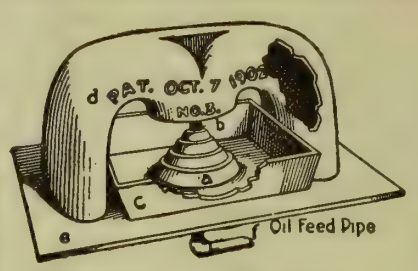
The distance the different species should be planted depends somewhat upon the use that it is intended to make of them. If intended for fuel or fence posts, they may be planted closer than if intended for other purposes; and if intended for lumber, they should be further apart, finally, at least, than if they are to be cut for ties or telephone poles. If for fence posts, E. rostrata, E. teriticornis, and E. corynocalyx may be planted six by six or six by eight; if for telephone poles, these species and E. citriodora should not be planted closer than ten by ten; or they may be set six by eight, and each alternate row cut out for posts or fuel, leaving them eight by twelve. For piles E. globulus should be set, or should be cut out to, twelve by twelve. For lumber E. citriodora should be set as far apart as twelve by twelve, and the faster growing species should be at least twelve by sixteen, finally. It is a mistake to set too close. Nothing is gained by it. Eucalypts like sunshine, and should not shade one another too much. An acre of land can produce only a certain amount of timber. For most purposes it is better that this timber be concentrated in a smaller number of vigorous trees, than distributed among a large number of crowded ones.

The best source of reliable seed are the trees growing in the region—trees whose identity and characteristics are established. Purchasing seed in Australia is likely to result in many disappointments. Before there were trees of seed-producing age in the southwest it was necessary to import seed, but now that there are large trees of most of the desirable species growing in California, the importation of seed is in most cases unnecessary. Of a few species we will need to procure the seed from Australia for some time yet, but of most of them there is an adequate supply at home.

* * *

TOMATOES IN HOT DRY REGIONS.

T. S. V. writes from Daggett asking for the name of the variety of tomatoes that bears here during the summer. The only varieties that bear well in a hot dry region are those with very heavy foliage, the Dwarf Champion being the tomato that is grown here almost exclusively. It begins ripening fruit during the latter part of June, and continues furnishing fruit through July and much of August. During the latter month no fruit sets, and consequently none ripens during September. Fruit begins ripening again during October and continues until the frosts of November or December. The varieties with sparse or finely divided foliage produce little fruit during any part of the season.



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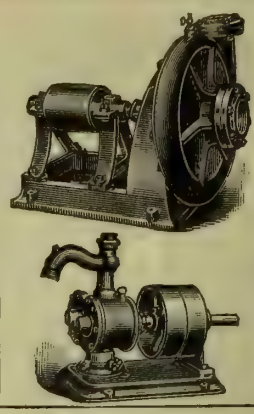

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BY J. W. MILLS, ONTARIO, CAL.

COWPEAS IN WALNUT GROVES.

Editor Cultivator: What is your advice relative to planting Black-eyed Field Peas for forage and soiling as well as for green manuring? I have a nine year old walnut grove on good bottom soil with abundance of irrigating water until June and have seriously considered planting some field pea—preferably Canadian, but cannot get seed—notwithstanding the lateness of the season and pasturing same off about April 20th, when I would plow again. If I keep the ground saturated do you think that the lack of cultivation during those two months of spring will affect the trees? Would 100 pounds of Black-eyed peas per acre be an excessive quantity to broadcast. I intended to broadcast and then disk twice about four or five inches deep, lapping the disker and then harrow.—L. J. U., Pala, Cal.

Your plan is a good one, having so much irrigation water, but this is too early to plant the Black-eyed pea. We infer that you refer to the cow pea, which is really a bean and will not stand any frost at all. It requires very warm weather in which to grow. If planted this early even in your section it would not, according to our judgment, give as good results as if planted later: plant at the time you find your garden beans do the best. It will take about two months for them to make a growth that would be of much use to you. If you broadcast (75 lbs. per acre is enough seed to put on) and furrow out with small shovels on a cultivator, you may keep the orchard well watered and keep the peas growing. If you plow under the crop or the vines that are left after pasturing them, your soil will improve rapidly, even though it appears to be in good condition now. You need not fear any damage resulting from growing these crops and plowing them under at the time you mention. The time selected for doing this in California has always been early spring because it was thought necessary to have clean culture from that time on. When water is abundant, a much better growth is secured on the green crops if grown in the spring or early summer. At this time the soil gives up its food to plants more rapidly than any other time of the year and consequently produces a more abundant growth. We do not know but what spring and summers are better seasons for growing green manuring crops than winter. Prof. Powell believes that it is better to grow a summer crop, let it lie dead on the ground during the winter and plow under in the spring than to allow the ground to remain bare all winter to be washed by the rains. He speaks from an eastern standpoint but suggests that it migth work well here provided there is water enough available to grow the summer crop and keep the trees sufficiently supplied with moisture.

You should not overlook the fact that if you never have grown these peas on your land, you may not get good results unless you inoculate the seed with earth in which cowpeas have grown before and produced nodules on the roots. If you moisten the seed and sprinkle them with earth, you should get good results. Even if you should get a good growth without nodules you would not gain any more than by growing a grain crop as far as fertilizing results go.

* * *

OLIVES AND SHADE TREES.

Editor Cultivator: What is the best variety of olive to plant, both for hardiness and early bearing. Also a variety of shade tree suitable for making shade with branching limbs.—Subscriber, Pomona.

Any of the olives are hardy growers except Manzanillo Atrovolacea and a few others that are not of much importance. Verdale makes a dwarf tree but is one of the earliest bearers. Rubra is a good grower and bears young. It is a rather small olive but has a fine flavor when pickled. It is a perfect free stone. Santa Caterina is a sure bearer, a vigorous grower and of fine quality. Take it all in all, Mission is considered the best general purpose olive.

The growing impression among people regarding street trees seems to favor the live oak that is a native of this valley. The late Mr. C. L. Gould tried to induce street tree committees and farmers' clubs to use the native live oak as a street tree. The subject was one that he always presented on every occasion when ornamental tree planting came up, and evidence seems to show that he was right. If the object is to have spreading shade trees in the house yard, we would surely either have a fig or a walnut tree. A fig tree would not be pleasant near the house, but for an out-of-the-way corner where the fallen fruit would not drop in the path, it would be the most valuable shade tree that we know of. The English walnut is a clean tree except for a short time in the fall, but the discomfort of having to clean up a few times will be offset by the crop of nuts it will produce. Both of these trees are useful as well as handsome and are as free from pests which will disfigure ornamental plants as any trees that we know of.

* * *

MELONS MIXING.

Editor Cultivator: Will you kindly answer through the Cultivator whether it is safe to plant pumpkins, water melons, canteloupes, etc., near each other? Will watermelons and muskmelons mix if planted near each other, and will different kinds of watermelons mix?—M. C. H., Pasadena.

There are several species of melon fruits that are quite distinct and do not cross pollinate, though they mix among themselves. Pumpkins belong to the division known as Cucurbita pepo. The vegetable marrows belong to this family, though they look quite different, being long, with a more tender skin. The squashes known as summer squash belong to the same family. All of these will cross and become mixed.

Hubbard, Marblehead, Essex hybrid and Turban squashes belong to Cucurbita maxima and will not cross with C. Pepo. They will cross with each other the same as in the case of other species.

Canteloupes will not cross with watermelons or cucumbers.

Watermélons will not cross with any of the above species of melons. The tendency under ordinary circumstances is to deterioration in all of these annuals, and this is often laid to the crossing of different species. Hybrids are sometimes formed which make new varieties but it is very unusual and is even difficult to bring this about artificially. These rare cases make a decided change in the product and does not simply give modified results in an indifferent way. If this were so, we would soon have such a conglomeration of varieties that the distinct species that now exist would soon be obliterated. It would simply render scientific classification a thing of the past.

* * *

GRAPE GRAFT FAILURES.

Editor Cultivator: I have some resistant vines I planted last winter, intending to graft them last summer. Procured a pamphlet from Berkeley Experimental station on grafting and tried to graft them but failed. Now, I want to know whether there is any method of grafting them on while dormant or what is best to do.—W. H. O., Covina.

If you failed to get a stand of vines with your summer grafting, you ought to get a good stand by grafting the failures this spring. We suppose that your vines are planted in vineyard form. When the buds begin to swell, which is some time in March, cut the stocks off about an inch below the surface of the ground and put in a cleft graft. Make the scion with two buds and mound up with dirt so as to bring the top bud just at the surface of the mound. No wrapping is necessary. When the scion starts to grow, stake the young shoots or the wind will be sure to blow them out. When six inches long, remove part of the mound of soil and later level it even with the surface of the ground. Rub off all roots that come out at the bottom of the scions. Be sure not to saw the stump off lower than described as it will be apt to produce roots on the scion which will then make your vine partly non-resistant.

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SUCCESSFUL SPRAYING.

In a recent visit I made to the famous orchard of the Arlington Heights estate, managed by Commissioner Pease, of San Bernardino county, I noted the wonderful success he is having with spraying. We all know Commissioner Pease. We know too how greatly he favored fumigation and with what good reason. In his hands it was a wondrous success, though very costly and laborious. I noticed an item in a paper recently to the effect "that the commissioners of San Bernardino county have discovered in some of the citrus orchards a prosperous colony of red scale." It is farther stated that "they have commenced spraying to exterminate this dreaded pest." One of our best inspectors who, himself, is a recent convert to spraying, having sprayed his own orchard, lately advised fumigation for red scale. It seems that Mr. Pease knows of a better way.

The other significant fact comes from the experience of Mr. Mills, who has wrought such wonders in the vast Arlington Heights orchard. Mr. Mills had fumigated, or at least the orchard had been fumigated, three times within eighteen months, yet the scale steadily increased. The expense was 45 cents per tree. This past season the trees were sprayed and with entire success. Mr. Mills showed me the trees and though they are very clean now, they show to the experienced eye that they had been in bad condition. Mr. Mills gives the best record for cheapness of any one that I have yet heard from. It cost him less than one-half cent to put it on. He put 18 to 20 gallons on the large twelve-year-old trees. He owns his own machine and does his own work. He says that the spraying has cost him only one-fourth of what he had to pay for the fumigation. Mr. Mills, however, is as urgent as I am in favor of the man's doing his own work. He says, what must be patent to any thoughtful man, that in this work thoroughness counts for everything. A neighbor had his orchard sprayed, was dissatisfied and came and looked at the Arlington trees. He was so pleased with Mr. Mill's success that he secured his services to spray his own orchard. He feels that the result has more than warranted this expense. I am very glad to note that the orchardists are very generally considering the wisdom of co-operating, purchasing and owning their own machines and spraying their own orchards. Mr. Mills asserts emphatically what I have long believed, that in work where such painstaking care is imperative, it should not be left to disinterested parties. One of the commissioners of San Bernardino county asserted to me not long since with great emphasis, "You are entirely right in urging that the orchardists own their own spraying outfit and do their own work." I think the time is ripe for the statement that fumigation is doomed. Thorough spraying with a good quality of distillate is surely the way to treat the scale, and at the same time destroy the red mite (red spider) and kill myriads of thrips. But in the good future, contract work will be replaced by work done by the orchardist himself. In fact, the difference in the actual cost of spraying and the amount charged by the contractor will very soon pay for the outfit. Of course, Mr. Mills' work is on a very extensive scale. He said to me that his machines were paid for many times over during the past year. If there is any orchardist who has doubts in this matter, it will pay him well to visit the Arlington orchard, where he will see an object lesson that will surely convert him to the value of the distillate spray, very greatly to the advantage of his own pocketbook and orchard.

* * *

COVER CROPS.

I have never talked with a more enthusiastic advocate of green manuring than is Professor George Powell, who has recently paid me a visit. He contends that nothing has so benefitted the orchards of the east as the use of cover crops. He gives startling examples of excessive fruit production through this practice, coupled with good cultivation. He states that his father, whom I know to be one of the most successful apple growers of the east, secured eleven consecutive full crops of apples, which phenomenal fruitage he ascribed almost wholly to cover crops. The crop used by Mr. Powell was crimson clover. I fully believe that the dry years of all times are the very ones when this practice should prevail.

Mr. Mills, of the Arlington orchard spares no pains or money to keep up with the very latest in orchard practice. What wonder, then, that he has laid hold of this practice of cover crops in bringing the Arlington orchard to its present wonderful thrift and productiveness. Last year he plowed under three hundred acres. This year twelve hundred acres are receiving the benefit from a great crop of Canadian field peas. So marked is the advantage that next year Mr. Mills proposes to plant the entire orchard. He rightly contends that the cover crop is not only the cheapest way to get nitrogen and supply the greatly needed humus, but that it is almost as valuable in conserving the moisture of the soil. He states that a part of his orchard which was green manured last year needed only one irrigation the past season, and the balance only two irrigations, though Mr. Mills is insistent that the trees have water whenever they need it. I said, "Can it be possible that the trees kept their thrift with so little irrigation?" He replied, "I will show you," and drove at once to these portions of the orchard in question. I was delighted to see vigorous trees with rich green foliage and loaded with fruit. Surely here is another object lesson that speaks for itself.

SPORE CASES OF BOSTON FERN.

Mr. Geo. F. Herreck, Riverside, sends me a sprig of the common Boston Fern with numerous spore cases on the fronds or leaves. He asks if the eggs or scale are to be feared; and if so, he asks for the name of the pest and asks for the remedy. These spots are the spores of the fern and no enemy at all. He will find that they are regularly arranged on the leaves. From these come the spores or seeds, if we may so speak, of the plants. It is not strange that Mr. H. thought them scale insects, as the semblance is marked. I do not think that scale are ever placed with such regularity. They wander about for a time and then settle to suck and grow. There is no reason why they should be placed with any regularity.

* * *

CORN WORMS.

L. R. Richmond, Hemet, wishes me to explain the origin and history of the caterpillars that feed on the green corn. This is the larva or caterpillar of a moth. The grayish-yellow moth lays her eggs on the silk, and as they hatch the "worms" work down and feed on the growing kernels. Hand picking will protect against them, but this is hardly practical for more than a small patch. A wire screen over the ear has been recommended as it is said to keep the moth from laying, and yet will not prevent pollination. I wonder if this is more than a theory. In any case this is as impracticable as the other. Early or late planting often avoids the pest. This insect also works on the cotton bolls and is called in the south "The Cotton Boll Worm." It also works here and elsewhere on tomatoes. It eats into the fruit. It is a nasty pest, if we may use an expression that our English frineds are wont to employ.

The friends of co-operation in Los Angeles county lost a strong man in the death of John R. Moles, of Pomona. The Times, of this week, makes this strong comment on his death and the loss his services will be to co-operative interests: The progress and advancement of co-operation in this valley, as exemplified in the Citrus Fruit Exchange, owes much to Mr. Moles. He was always an energetic leader. No work was too hard nor detail too tedious for him; he was always ready to do more than his share.

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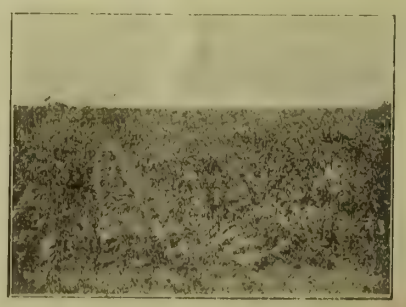

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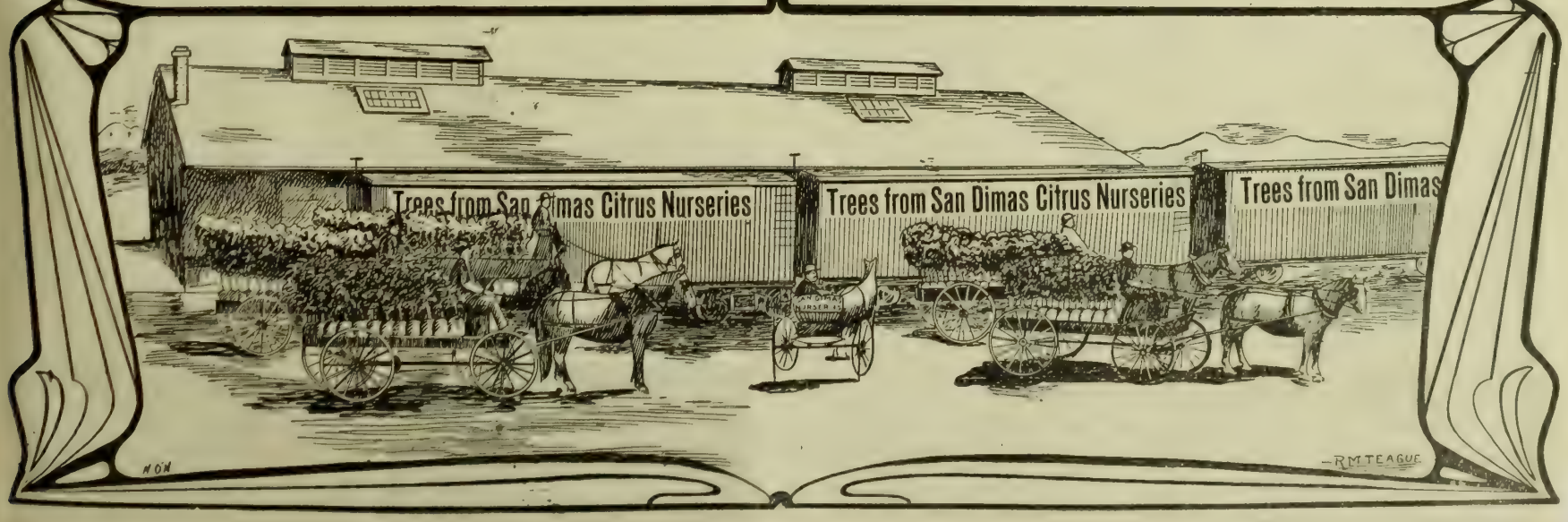

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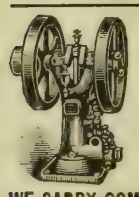
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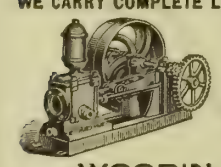
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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

HORTICULTURE.

The first Arbor Day celebration in Vacaville was held last week.

The Santa Paula Deciduous Fruit Association has been organized for the purpose of preparing for market the fruit of its members, either green, canned or dried. The capital stock of the association is $25,000.

The residents of the new Naglee Park section of San Jose, in which fifty or more fine residences have been erected, have decided to ornament all the streets in the tract with palms of various varieties.

Orchard pruning and the winter spraying campaign at Watsonville is being rushed at this time, although somewhat interfered with by the rains. The spraying is being done with the lime, sulphur and salt mixture, the formula that has been used in the past with such success.

While speaking before the Grange at San Jose, last Saturday, E. M. Ehrhorn made the statement that California had three broods of peach root borers annually, while the east had only one. This makes the work of keeping the pest in check doubly hard. They hatch here in April, June and November.

LIVE STOCK.

A creamery is a certainty for Brawley in the very near future. It will start out with 200 cows.

The value of all live stock exported from the U. S. in 1903 was $42,551,174. Divided as follows: Cattle, $37,725,452; hogs, $53,180; horses, $3,142,731; mules, $354,776; sheep, $1,153,770; miscellaneous, including fowls, $121,265.

The Dairy and Produce Review is authority for the statement that the fresh butter receipts at San Francisco, for the past four weeks, were over 25 per cent heavier this year than either of the two preceding years. With considerable cold storage butter on hand and the production rapidly increasing and no outlet in sight it is predicted that the prices will take a great tumble.

Mr. Stuart, of Los Posas, missed a big fat hog and supposed it had been stolen. The 39th day after its disappearance it was found in a deep excavation into which it had fallen. It was nothing when found but skin and bones and the indications were that it had been there for 39 days without food or water. Dr. Tanner some years ago, and others, have shown it to be possible for men to fast 40 days but this is the first record breaker among the swine family that we've known of.—Ventura Free Press.

AGRICULTURE.

The berry growers of Watsonville will hold a meeting Saturday, March 5.

Broom corn to the value of $235,795 was exported from the U. S. during 1903.

About 10,000 acres of wheat and barley in the vicinity of Brawley is now growing and Geo. W. McNear & Co. are building a warehouse in the town, 70x200 feet, to take care of the crop.

The meeting of raisin growers called for last Monday at Fresno, by M. Theo. Kearney, was by him postponed till March 7th. At this time will be held the regular meeting of the Association for the nomination of candidates for directors.

The San Jose Mercury says that while feed is now plentiful and that a good hay and grain crop is assured in that section, yet the high prices for hay and cereals would continue till the new crop is harvested. One of the causes for the high prices prevailing is the 3000-ton order for hay to be sent to the Orient.

J. Ross Clark, manager of the Los Alamitos sugar factory, in a recent interview denied the reports that there would be no campaign the coming season. He stated that contracts for thousands of acres of beets had been signed and there was sufficient irrigable land near the factory to insure a sufficient crop to make a few weeks run on at least.

Delegates from twenty States met at Omaha this week to participate in the formation of the National Co-operative Grain Growers and Stock Raisers' Association. The object of the association is to "buy, sell and deal in grain, live stock and all kinds of produce on commission and otherwise, and for that purpose to build and equip elevators, warehouses, cold-storage plants, stock yards and whatever shall be necessary for the carrying on of the business of the company. The capital stock is placed at $50,000,000, with 5,000,000 shares of $10 each. The company shall be governed by nine directors, who shall have power to absorb other similar associations. State and local exchanges are provided for.

MISCELLANEOUS.

Reedley has formed an improvement club.

An earthquake shock was felt at San Francisco Monday morning. No damage reported.

At a depth of 99 feet the drillers of a gas well in Ventura uncovered an enormous flow of gas last week.

E. F. Lyman, who has been the foreman of the Spreckles sugar factory at Watsonville since its erection fifteen years ago, has resigned.

The ice plant at Imperial will be taxed to its limit to supply the ice needed for the creameries in connection with the regular demand.

A meeting of representatives of wine companies located east of the Rockies was held at New York, Monday, the principal purpose was to devise ways to meet competition from California wine manufacturers.

The latest concerning a Ventura-Bakersfield railroad, according to the Santa Barbara Herald, is to the effect that the S. P. will extend its Nordhoff line to connect those two points, in opposition to the Burson road.

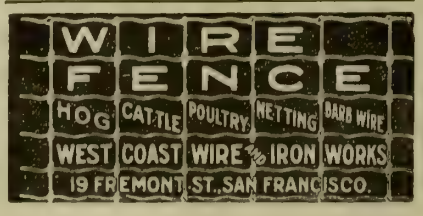
Puget Sound and Portland capitalists have raised $100,000 with which to build a railroad from Dalles, Or., to Durfur, thirty miles south, during the present summer. The line will tap a remarkably rich farming country.

The State Board of Bank Commissioners this week issued licenses for four new banks to do business in Los Angeles. They are the Federal bank, the Fidelity Savings bank, the Co-Operative Savings bank and the Union bank.

Articles of incorporation have been filed for a railroad to run from Boca, Nev., to Beckwith, Plumas county, a distance of eighty miles. The capital stock is placed at $1,200,000, and of this amount $243,000 has been subscribed. Construction work is to be commenced at once.

Prof. A. V. Steubenrauch, of the State University, has just returned from Washington, where he has been to help in the final location of the government seed and plant introduction gardens, and the date palm experiment station. Mecca, at the end of the Coachella Valley, on the borders of the Colorado desert, is the site selected for the date garden. The seed and plant introduction garden will go to Chico.

Owing to the heavy rains last week, the Sacramento Valley was inundated with water. The hop yards below Sacramento were badly damaged and it is stated that no hops will be raised this season. Railway tracks in places were washed out and many truck gardens ruined. The Sacramento river at Colusa registered 27 feet, 9½ inches, during the flood's highest point. This is the highest water ever registered at that place.



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ALIAS SUMMONS.
No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

ALIAS SUMMONS.
No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

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Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.

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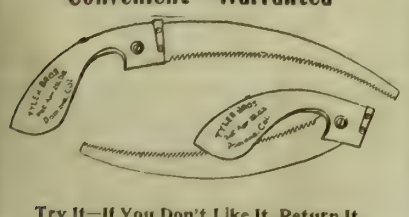

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GEO. R. TYLER Pomona, Cal.

Coast News and Notes

CONTINUED

LIVE STOCK.

The Lompoc Record says stock in Santa Barbara is out of danger.

The express agent at the town of Escondido shipped 104 cases of eggs in two days, last week.

The Tulare Fair Association is arranging to give a three days stock show with races the first week in October.

Geo. R. Miller, of Fullerton, has patented an anti-sucking device to use on a colt or calf, to break them of the habit.

Steel Brothers, at Imperial, have just received 300 head of milk cows and 500 head of calves and steers. The creamery they have erected is about ready to begin business.

At the Arrowhead Poultry ranch, owned by S. M. Butler, of San Bernardino, a practical method is employed to run the incubators. It is well known that the Arrowhead springs are very warm. Mr. Butler has applied this warm water, by the use of pipes, to his incubators and brooders, and so applies the heat as to render oil lamps and gasoline burners unnecessary. The application of natural heat to the incubators and brooders renders them sanitary and productive of excellent results.

HORTICULTURE.

J. R. White, of Wildomar, has shipped 25 tons of olives this season.

Orange shipments from Azusa, last week, were in amount thirty-two car loads. About one-third of the orange crop has been shipped.

Lionel Roberts, of Arlington Heights, has purchased from J. Alva Price, of Ontario, a choice ten-acre lemon grove. Lemons must pay, for Mr. Roberts already owns fine groves at Arlington Heights.

P. Duffy, of Australia, now in this country, reports that a promising market for oranges and lemons from California has been established in the Antipodes, the navel oranges of this State being already in great demand, though it has been hard to displace the small oranges sent Australia from Messina. The lemons from Messina are fast disappearing before California lemons, particularly those from Tulare district, which, an analysis shows, according to Duffy, contain 16 per cent more juice and 33 1-3 per cent more acid than those from Messina. About nine thousand boxes of the California lemons were taken by Australia and New Zealand last season.

MISCELLANEOUS.

Redding has had over thirty-six inches of rain this season.

Floods are doing immense damage in parts of the Sacramento valley.

Stockton is inundated with rain. A repetition of last year's flood is feared.

Santa Ana people are organizing an improvement club.

The commissioners to the St. Louis exposition from Solano county are preparing to make an exhibit of the onyx to be found in the hills near Tolenas springs.

The citizens of Napa decline to put up $16,000 subsidy for the proposed railroad from Napa to some point on the Marin county shore, near San Francisco bay.

The Escondido Times gives the cheering information that the trustees of the irrigation district in which Escondido is situated, are about to pay off the bonds and then own, by co-operation, the water rights of the district.

According to a recent decision of the Supreme Court of California, transportation companies may make rules and regulations beyond what appears on the face of a ticket, and that the passengers must comply with them.

Congressman Belle has introduced a resolution in the House directing the Secretary of War to cause a survey to be made of the Napa river, in Napa county, with a view of straightening the river at three points in its course.

It is reported from Santa Ana that the California Steel and Iron Company which last year secured a lease of twenty-five acres of ground on the Newport Beach bluffs and established there buildings for a smelter, has extended its lease to include 500 acres of the land in that vicinity, and will proceed at once to the development of the asphalt and crude oil deposits believed to be there.

AGRICULTURE.

Vast fields of beets are being sown at Oxnard.

The Alamitos sugar factory is going ahead at a marvelous gait. Contracts for thousands of acres of beets have so far been signed.

P. Duffy, from Australia, is purchasing large consignments of vegetables and fruit in San Francisco for a syndicate of Australian and New Zealand dealers.

A raisin grower makes the point that a small seeding plant erected at the St. Louis exposition would do a paying business by packing seedless raisins in cartons and selling them at from five to ten cents a package.

Barley growers in the Imperial valley talk about raising a perpetual crop of this grain. They think they can cut five crops a year, four of which will be volunteer.

Not to be lulled to slumber by the promise of plenty of rain this spring, the Lompoc farmers are projecting a mammoth irrigation scheme by which several thousand acres of Santa Barbara county farm lands shall be irrigated.

One advantage gained by the dry weather in Kern county is the killing off of thousands of squirrels. They literally died by colonies for want of food. Now with the rains that are coming stockmen say they will have a fair crop of hay on irrigated lands.

Pumping plants are going in all over Southern California with a rapidity unknown heretofore. This will insure prosperity, for there is not a section from Santa Barbara to San Diego that can not be made wondrously productive by irrigation.

There is not much encouragement to asparagus growers in the report on asparagus just written by Ralph E. Smith. Outside of the warning to canners of the danger which threatens this industry there is little in the report to cause the growers of this fine vegetable to feel that the future of the industry is safe.

Professor C. W. Woodworth of the Department of Agriculture of the State University, is carrying on an important economic experiment in the culture of bees and the production of honey. For this purpose he has had constructed what is in effect a beehive made entirely of glass. The important feature of the experiment is the substitution of artificially prepared food in the place of the usual plant products from which honey is made.

Luther Burbank has produced a new strain of potatoes and is now attempting to increase its size. A correspondent writing from Santa Rosa about this development, says: "About a year and a half ago Burbank secured from South America some potato seed to work upon. The seed was planted and carefully watched by the man who assists nature. He crossed and recrossed the plants in his mode of hybridization and today stated that he had between twenty and thirty thousand different varieties of the new potato under his care. The new potato will be sweeter than the old one. Its pulp will be almost of a carrot hue and will be very palatable. Mr. Burbank admitted that the new kind of potato will revolutionize the world so far as potatoes are concerned."

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I have a few thousand

Washington Navel Orange Trees

One and two years old at a very low price, to clear ground for replanting to orchard. Some one will get a snap in first-class trees. True to name and thrifty, healthy stock. No scale, no frost. Come and see.

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Write for Catalogue Free

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Apricot—Blenheim, Hemskirke, Moorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings, etc.
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Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

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Contract now for spring delivery Washington Navel & Valencia Late trees also grape fruit or orange seedbed plants for nursery

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LEE SEED CO., Burnt Corn, Ala.

C. H. SESSIONS, ASSOCIATE EDITOR

DAIRY BULLS.

Charles L. Thill, for years a recognized authority on breeding bulls, read a paper recently before the Wisconsin Dairyman's Association, which contains much practical information as well as valuable suggestions as how best to care for and handle the young bull. The paper in part is as follows:

"How can I be reasonably sure that any bull that you or any other breeder may send me will improve the quality of my herd?" This question I copy from a letter received in my mail two weeks ago; and is with all of us the leading question, and I wish I were able to answer it with any degree of certainty. In our few minutes' talk together we may be able to exchange some ideas that will be mutually helpful.

In the discussion of this question the first thing to do is to answer the question, "Who needs a dairy bull?" and I would answer it by saying that any man who intends to make dairying the chief aim of his live stock farming needs a pure bred dairy bull. "What breed?" you ask; I would answer, just the breed you take a fancy to, for with this one you will have the best success, because you will give it the best care.

The bull the dairyman will need will possibly not be the one that the pure bred breeder will need, for the latter, besides utility, is seeking for good looks and many fancy points. The essential points will be the same, however.

In his search for a bull, by correspondence, the dairyman must rely largely on pedigree and the reliability of the breeder he deals with. If possible, I would go and see the dam of the bull I was to use in my herd.

"How good a cow shall she be?" I would say that with the improved methods of care given by the breeders of today to their herds, no bull should be given a place in a good dairyman's herd whose dam will not make at least 400 pounds of butter a year, or its equivalent, 343 pounds of fat. The greater her record, the more valuable her son other things being equal.

An excellent plan is to buy an old bull, if still vigorous, and only in this way can you know just what kind of a sire you may have. Many of the best sires of all the breeds have gone to the shambles long before their usefulness was known.

Selecting the Animal.—In the selection of a bull for his individuality, the first thing I would want would be masculinity, which is not necessarily shown by his being coarse, or having a big head, but by his resolute, sturdy, commanding appearance, and this has nothing to do with his being cross, for this is largely education or the lack of it. He must show plenty of energy. I want him to have a good muzzle, showing good appetite, a large barrel, showing good digestive capacity. For use in a grade herd never mind if his great barrel has caused his back to sag a little.

Nearly the same words will apply to the selection of a young bull. Let him be active, robust, intelligent looking, and showing large capacity. If you wish his daughters to have good shaped udders and good sized teats see that the dam has such an udder and that the bull himself has good sized and squarely placed rudimentary teats. Let him be thin in the thighs, and show no tendency to beefiness at any place. In fact, let him be all that is different from a beef sire.

As emphasizing the thought that your bull should have a good mother, a few moments of study of some of the great dairy sires of the different breeds will be pertinent.

Bull Needs a Liberal Grain Ration.—I think one of the serious mistakes often made is to make a bull live entirely on roughage when in heavy service. Let them have all the good hay or corn fodder they want, but feed lightly of corn silage. Feed a ration of bran or bran and ground oats, of from six to eight pounds per day.

If the bull is quiet and a paddock is handy, he will be much improved by being at pasture in summer until flies get bad, but in nearly all cases it is better to keep him in the barn.

On many farms where the item of expense is not counted, a man will walk and lead a bull for an hour or more daily, and while it is doubtless efficient few of us wish to spend our time in this way. By far the cheapest way to exercise a bull is in a tread power, and we have so exercised our bulls for the last ten years. Nearly all of them learn it readily, even if old, and it will do no harm to work them an hour each day. More than that, they can easily earn their board running separator or other light machinery. It will not do to have the power very steep, for they will slip. Another excellent way to exercise a bull is to work him in a harness, and I have here photos showing bulls working single and double.

There are many other ways to exercise a bull, but I think the best one is to tie him by a rope around his horns to an overhead wire or rope 50 to 100 feet long. Set a post fifteen feet long four feet in the ground, and run a wire from the top of this post to a tree or building. If the wire runs through a hole in the top of the post to a short post close to the ground, you can readily arrange a tightener with a rod with a nut on the end.

We use about the same plan to give our bull a sun bath, but use a rope running through a pulley at the top of the post, and with a 100-pound weight on which will allow some give and take, but the rope is always tight. Many bulls tied out in this way will not walk around enough, and if you have such a one let a yearling bull or two out to scrap with him and both will get plenty of exercise.

Quite an important item of a bull's care that is nearly always neglected is the care of his feet. Don't let them grow like a certain breeder did his bull's feet a few years ago. The short course students were there judging, and one of them ventured to call the attention of the breeder to the six inches or more of toes the old bull had, and the breeder replied: "Young man, don't you know it is now winter, and of course we keep him on runners." It is a simple operation to throw a bull with a rope and to saw off his hoofs with a small saw. Nothing else is as good as a saw, and a good job can not be done unless the bull is thrown.

Animals Need Careful Handling.—The bull should have a ring in his nose about the time he is a year old, and earlier if he is headstrong, and as soon as it is healed he should be taught to lead by it, and always be handled by a staff. A daily grooming will improve his looks and doubtless do him good.

Do not keep your bull in a foul, dark pen, but if possible give him a light, airy box stall, in sight of the herd of cows, and be sure and clean his stall, and water him daily. Do not abuse him, but still be firm with him.

Never fool or play with a young bull, but always make him mind, and then as he grows older never give him a chance to know he can do anything else. Do not trust him if he is gentle, though you may do as you please about it if he acts cross. It is always the gentle bull that kills the man. Careless handling of bulls has cost our own State some of her best dairymen and breeders.

You will at this point want to come back to the first question, and desire to know what results you can expect by the use of a pure bred bull in your herd.

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When a man owes you money, and you want to get it badly, you simply send around a good collector, and if he is a good collector, and the man that owes you is worth it, he'll get it.

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Which are strictly up to date make the most prosperous dairyman. Write for our new catalogue describing Twentieth Century Dairying, and our unequaled stock of Dairy Apparatus and Supplies. Reasonable prices consistent with good quality.

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Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
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Used by 80 per cent of vaccinating stockmen in California. Early vaccination is good insurance. Write for description of our Black Leg Pills and Injector for using them. They are safer and easier used than either the string or powder vaccine.
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If your druggist does not stock our vaccines, order direct from us, we pay all charges.

If you select a bull who has a long line of female ancestors that were better cows than those you expected to breed him to, you may be almost sure that he will work a marked improvement in your herd. Just how much no one can say, for two full brothers will often, when equally as good individually, prove very different as sires.

You can ask any of our most successful dairymen in what one thing more than any other lies their success, and they will tell you, "The continued use of the best pure bred dairy sires I could find."

A JERSEY RECORD.

Brown Bessie's Nora 112398, born Jan. 27, 1896, bred by Richardson Bros., bought by A. B. White when 6 months old; sold to E. E. Moore when nearly four years old and now past eight years, is beyond doubt the best Jersey cow and money-maker on this coast. She gave Mr. White three calves, Mr. Moore four, and another will soon arrive, making eight calves from a cow not yet nine years old. The number of her grandchildren is not known except the eleven head once in Mr. White's herd. All these have been sold

Brown Bessie Nora, 112398, and her three daughters and oldest son. Nora is now owned by E. E. Moore, Compton.

except two, with Nora and her daughters, for $1645. Nora and these young heifers produced an income of $765 from milk and butter, and all were sold except Nora when two and three years old. Mr. Moore's increase and income is doubtless as good and will be greater, and he is inclined to hold on to them, and "not for sale" was his reply to an inquiry about one of Nora's promising daughters. Her son in Mr. Moore's herd is not only a prize winner, but shows a credit in service fees of over two hundred dollars. Time alone can tell what her returns will be in his choice herd. Her oldest son, Brown Bessie's Donald 56030, has been doing a great service in Mr. Southmayd's dairy herd at Gardena, but his daughters are mostly from grade cows, and, while good dairy cows, are not so valuable for breeding purposes. Brown Bessie's Nora and daughters are all large, rich milkers and sure breeders. She is very persistent, and averages over 6000 lbs. per year, and is equalled and surpassed in quantity by some of her daughters and granddaughters. She should have been tested when three years old, as her record showed by the Babcock over 16 lbs. per week, but as her milk was sold daily under contract, the churn was not used to verify the indications. She should be a grand good cow, as she is a combination of highest breeding and type. In her pedigree are no blanks—every sire has tested daughters and every dam a test and from one to five daughters in the list of tested cows. Where do you find her equal?

FROM A DAIRYMAN'S VIEW.

The rains of the past two weeks have partially revived the spirits of the stockmen in this State. While the pastures are not yet advanced sufficiently to warrant the assurance that they will support stock without further feeding, they are coming on splendidly, and with the warm weather following the copious rains will shortly care for all the stock. In Northern California the pastures are already sufficiently advanced to be of service to stockmen and in two weeks more will be strong enough to support stock without the assistance of dry feed.

Of course, so long as cattle are on dry feed prices will not materially change from what they are at present, but with the cattle on grass north of the Tehachapi there will be a signal decline in feed in this part of the State. This is devoutly desired by dairymen in Southern California and it is this prospect which is now pleasing the owners of dairy herds. A leading dairyman expressed the belief yesterday that we shall see a fine hay crop in California and that it will not require many inches more of rain to produce it. It has been the experience of almost every farmer who has resided in California any number of years, that the best crops are attained in seasons where the rains come late. When they do come in February, March and April, the crops mature and the hay and grain are of superior quality.

The fact is we are always fearing we shall be injured, and our fear is more serious than the injury actually received. Stockmen are no exception to the rule, they complain grievously at their bad luck, poor prices for their cattle, butter and grain, but go on, from year to year, churning out the same conditions. We have now every prospect for a prosperous year in the dairy business because we have a prospect for rain enough to make a hay crop, and that will cheapen feed. With cheap feed the dairyman and the raiser of fancy stock will be assured of at least usual prosperity.

CARING FOR THE COLT.

There is no better food for colts the first winter than good hay and crushed oats. A little bran added two or three times a week to keep the digestion in tone will be helpful. If a few carrots can also be spared, the colts will grow just so much better. Care should be taken to give colts plenty of exercise, especially in the winter season when the temptation is strong to confine them to their stalls.

JOHN C. KEEFE
Breeder of
REGISTERED JERSEY CATTLE
Orange, Cal.

C. S. BURGESS
BREEDER OF
REGISTERED JERSEY CATTLE
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AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
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Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
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Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address
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ST. LAMBERTS—viz., St. Lamberts Lady Jane, Kings Hettie of St. Lambert, St. Lamberts Mary Ann C. Melia Ann Hall, Melia's Easter Lily, Melia Ann's Ruie.
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All are registered in A. J. C. C. records. More are on way to this herd.
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MELIA ANN'S LAD and a YOUNG TORMENTOR BULL
The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
James Houston - Duarte, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

MORE ABOUT FEEDING.

I have been writing a series of articles on feeding for eggs, telling what I have done myself in the matter, showing that exercise, comfort and proper food are the three requisites for egg production, and also trying to give some idea of what constitutes proper food. Proper food being the "balanced ration," or the ration which contains the elements of the egg. A hen must eat a certain amount to support life, to provide for the waste, for the feather-making, etc., and all the surplus she eats should be turned into eggs, and if she is of the bred-to-lay kind, it will go into eggs, otherwise it will be stored up in fat against cold weather or dearth of food, or as an all-wise provision for three weeks of incubating on eggs. For this reason the thorough-breds that are bred to lay are the hens that pay. Blood tells along all lines. We have the race horse, we have the butter cow, we have the big milkers, and now we have been working for the bred-to-lay fowls and we are getting them, and every year sees an improvement. It is not natural for the hen to lay all the year round. The quality of laying continuously has to be trained into, and bred into, and fed into, the hen and this is what I have been endeavoring to demonstrate.

Before leaving the subject I want to give the experience of Dr. Nottage, of Goshen, Massachusetts, in feeding his flock of White Wyandottes. He calls his method a new, practical, labor-saving, profit-earning method of feeding. I think seriously of trying it myself. I describe it in his own words.

* * *

"To understand better the advantages of dry feeding, let us look at the method that I employ. The fact that I have gotten rid of mixing and cooking mashes and am now feeding the most of the grain from feed boxes (hoppers) shows how much easier it is to care for a good sized flock of fowls. The advantages are apparent to all who feed their flock four or five times a day, and constantly fuss with them. I have come to be known by the farmers around here as 'the man who feeds his hens twice a week," from the fact that during the growing period, from the incubator to the pullet, who is getting ready to lay, I feed all my grain and beef scraps from feed boxes which I fill up twice a week. Bear in mind that all my young stock is on free range, and the laying birds in yards so large that they seldom wander to the ends of them; also that even this stock is let out to run at large on alternate days."

I would not advise changing suddenly any method of feeding, as it will seriously affect the egg output for a time; but after a while the hens will lay as before. The best way is to begin with the chicks right from the incubator. Looking at the subject of feeding from the beginner's standpoint, I am certainly convinced that fewer mistakes will be made and a larger number of chickens raised to a healthy maturity, by feeding dry grains and beef scraps from feed boxes constantly filled, provided that the chicks can run upon grass. There will be seen no rushing, trampling crowds of chicks; but a contented and lively set of youngsters that are plump and happy, although on free range, where some people think they are likely to run the flesh off their bones; they will find time to dig holes in the dirt, lie under the shade of the trees and enjoy life. The rapid growth of the stock will be surprising. More of this when we speak of results; do not get the idea that an experienced poultryman cannot produce like good results with his mashes, for he certainly can. However, let a beginner start with mashes and they will become "messes," and more cluck will drop out of the race than if he adopts the plan I pursue with mine.

Have plenty of grit where the chicks can pick it up for the first meal. Get your miller to mix together one part of wheat to two parts of corn and crack them so they will be a little finer than cracked corn. Place a heap of this in front of the brooder, and beside it a heap of dried beef scraps, with the coarser portions sifted out, until the chicks are big enough to eat the larger scraps. If you have any skim milk keep the youngsters on that for a drink until they become a little tired of it, which may be in two or three weeks. You can then let them have their choice between milk and water. If there is not a green sod for them to pull at, chop up some onions, lettuce or cabbage and let them have some once a day. You can now let them have only this mixture of grain, and beef scraps from the two compartments of a feed box until the young pullets are ready to go into winter quarters, provided they are upon grass all the time. In this way it is possible to grow good healthy layers and not have to fuss about "balanced rations" and forty different kinds of food.

When the pullets show signs of getting ready to lay, which they should do about September, if they are hatched in March or April, it is time to change the manner of feeding somewhat.

* * *

Each hens eats what she wants and "what she wants is usually what she needs." If you put a definite amount of animal food in a mash, some hens will not get enough meat and others will over eat. I am surprised to see how little meat they eat when it is fed in this way, yet it appears to be all they need. Just as soon as insects begin to be scarce the meat box will show it, for the hens balance their ration as far as this is concerned. Last year they laid more eggs for me than when I put the meat in a mash, and at no time have they averaged less. Leave them the beef scraps in the feed box, and take out the grain, just noting how much grain your flock is eating every twenty-four hours, put litter in the scratching pens, and feed the "same amount" of grain at different times during the day in this litter. It is time now to add oats to your bill of fare if you have not already done so.

* * *

The description of Dr. Nottage's way of feeding so interested me that I decided to give it to our readers and shall certainly try it myself, especially as

MATURED

Standard Bred
Barred Plymouth Rocks
Light Brahmas
Buff Orpingtons
S. C. W Leghorns

Only Birds that have

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are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

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Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

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There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
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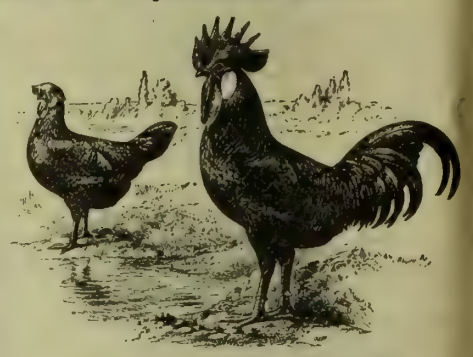

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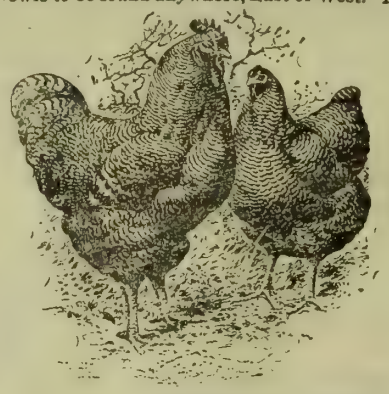
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees



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Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.

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this year. for the first time, our poultry supply houses are carrying the beef scraps.

* * *

Feeding.—Dear Madam: I am a new subscriber to the California Cultivator and an admirer of your section, "Poultry for Profit." I have already found valuable aid and instructions in your columns that at one reading has alone paid for the year's subscription to the California Cultivator. While your writings in the last two papers have been mainly on feeding, it would not altogether apply in my case as a matter of economy. I believe I can make the most of my feed if you will kindly give me a little instruction and information. I have never handled or dealt with fowls before and am entirely ignorant as to the raising and breeding, etc. Have got ducks, geese, turkeys and chickens and before long hope to enter the market for trade and will indeed be glad to use the advertising columns of the Cultivator. The chicken ranch is about half a mile from the slaughter house and we have the advantage of fresh blood, cooked beef heads, sheep livers, bone, cooked and green. Have also lots of corn and barley. Ranch is all green alfalfa and plenty of natural hot and cold water. Will you kindly state in your judgment and experience how I may make or construct a day's feeding for the fowl with these advantages and by adding other necessaries, and oblige, H. I. H., San Bernardino.

You certainly have an ideal location and every advantage for making a grand sucess in the poultry business, and only lack one thing and that is experience. As you have been reading my articles you would see by them that the average hen requires about six ounces of food a day, composed of about three ounces of mill stuff (i. e. grains), two ounces at least of green stuff and one of animal and mineral. But in your case, as you have not experience and it really needs great experience and a very quick eye to risk feeding a large amount of animal food, you have to watch the slightest symptom of over-feeding, lack of appetite, indigestion and liver trouble, or away will go your profits and a good many of your hens, so in your case I would try Dr. Nottage's plan and let the hens balance their own rations by keeping meat always before them, you will soon learn how much they will eat, but never let them get hungry for the meat and they will not over eat. In your place I would give them either in the scratching pens barley, corn, wheat and oats, or else in hoppers. Would let them run on the alfalfa and not make any mash at all. If you feed grain in the scratching pens about three ounces per hen would be right.

The ducks and the turkeys when mature will, I know, do admirably on this food, balancing their own rations. You must keep sand before the ducks, besides grit, charcoal, oyster shell or lime before all the fowls all the time. I trust these hints will help you; if I can give you any other information let me know.

* * *

Minorcas and Leghorns. — Dear Friend: There are a few questions about poultry raising that are not quite clear to me. First, how long will it be before I can set eggs from hens that I now have penned up for breeding purposes, they having been in the yard with other roosters?

Second, I am crossing my White Leghorns with Black Minorcas. I have been told that the chicks will be larger and good layers. Is it the thing to do?

Third, are Minorcas better layers than White Leghorns, and are they earlier setters?

Fourth, should poultry have meat every day?

Fifth, should I be careful in the selection of my eggs for setting, as to their size and shape?

I would like to see an answer to my questions as soon as convenient.—Mrs. L. E., Watsonville.

Answer first. As eggs will become fertile in two days and will be fertile in a hen separated from a rooster for three weeks occasionally, you can count a month and then be nearly sure of them.

Answer second. It is not a wise thing to do; you will only get mongrels by this cross.

Answer third. Minorcas are as good layers as Leghorns. Neither of these breeds are considered good setters.

Answer fourth. Yes; a little.

Answer fifth. Certainly; choose smooth, good shells of good shape for hatching.

* *. *

Dropsy.—Mrs. Basley: I write you in regard to my hens, thinking perhaps you can tell me what to do for them. I haven't any idea what can be the trouble as they seem perfectly healthy until, all of a sudden, they take a diarrhoea and in a few days die. I lost one yesterday, and thought I would open her, she seemed so bloated. Just as I cut the skin at the usual place of opening, water poured from her in a stream, any amount of it. I have spoken to several about it, and they advised me to write to you. I have explained it as best I can, but I am afraid it is a very poor explanation. But if you can tell me anything to save a part of my hens I will surely be very grateful. Answer through the columns of the California Cultivator.—Mrs. S. H., Lompoc.

Your hen had dropsy. Dr. Salmon, in his book on the disease of chickens, says that dropsy comes from peritonitis, also from cholera and anemia. Now, as you gave none of the other symptoms, I can scarcely help you to decide. Is the liver enlarged or the diarrhoea green? If so, I fear it may be cholera and would recommend you to move the other chickens to fresh quarters and thoroughly disinfect premises, then dig them over and plant a crop of barley or wheat. Peritonitis is difficult to treat. It frequently comes from an injury or from an egg being broken internally. Dr. Salmon recommends a little aconite in the drinking water.

Winner Buffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever held west of the Missouri.

WHITE LEGHORNS

Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."

Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from various egg-producing strains of large eggs.

Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect. None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.

To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders, Selected not only for their Show qualities, but more essentially for their laying qualities of large eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize bullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and the first prize hen at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be fonnd.

"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger eggs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Snch strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.

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Why do so many so called poultry medicines fail? Because they are made to sell at 100 per cent and not to cure. Palmer Poultry Powder sells on its merits. Roup or cholera is no barrier to the poultry raiser now. Before this famous remedy was tested and its value proven the hatchet was used for roup. Now Palmer's Roup Remedies are used and the fowls saved.

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You may think your fowls are healthy but do not lay. You buy egg producing food to force egg production. When your fowls are healthy nature fills the egg basket. Don't be deceived by cheap nostrums.

Palmer's Cholera Compound makes and keeps your hens healthy and vigorous and doubles the egg product. To try it is to buy it, to buy it is to make money.

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Lice prey upon chickens. This is one of the great bars to profit in poultry. But it need not be so. The fumes from

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catch every louse. The fumes penetrate every hiding place. There is no hiding from it under feathers or in cracks or corners of roosts. The chickens are not affected—do not mind it, but its use means louse destruction. Just paint it on the floor, walls, boards, roosts, etc of the hen houses. Should you prefer the powder treatment don't forget the reliable **Prussian Lice Powder**—Price 25c; mail 40c.

"We can recommend your Prussian Lice Killer to any one who has poultry. Please quote us prices on one gallon and five gallon lots."—F. M. WAY, Maynard, Iowa.

Prices, 50c and $1.00; 5 gallons, $4.00. Don't forget that we make the famous **Prussian Poultry Food** also. If your dealer does not keep it, write to us. Our 68 page stock book sent free.

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Send for Jubilee catalogue No. 30. It will explain all you want to know.

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EGGS FOR HATCHING

From grand laying strains Black Minorca and White Leghorn fowls. Pens headed by prize winners, $1 and $2 for setting of 15. One Plymouth Rock pen headed by bird bred at eastern experiment station from 250-egg strain, $2 per 13 eggs Stock for sale.

J. P. McDonough Geyserville, Cal.

INDIAN RUNNER DUCKS

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WHITE PLYMOUTH ROCKS

Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.

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THE GOOD FOUR

I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to

EGGS, $1.50 PER SETTING

S. W. MORGAN, SUNNYSIDE, CAL

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—FROM—

PURE BRED WHITE LEGHORNS

$1 00 per 13—$4.00 per 100

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BARRED PLYMOUTH ROCKS

THOMPSON'S RINGLET STRAIN

Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.

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Lake Avenue Poultry Yards

Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $4.00 per 100. Strong, healthy stock, prize winning strains. Visitors welcome.

757 N. LAKE AVE., PASADENA, CAL.

SAY! Send $1.50 for 13 eggs from hoice prize-winning stock o

GOLDEN BUFF LEGHORNS

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BLUE BARRED PLYMOUTH ROCKS

A few good cockerels and hens for sale. Winners at great San Francisco Show.

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Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

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From good, strong, healthy

S. C. White and Brown Leghorns

$1.00 per 15, $4.00 per 100
Satisfaction guaranteed

T. E. Mills - Lordsburg, Cal.

Knapp Strain
S. C. WHITE LEGHORNS

BEST egg variety known. Awarded **HIGHEST HONORS** at hundreds of America's leading shows. First and second **PRIZES** awarded to **COCKS** of this strain at the **GREAT PAN-AMERICAN EXPOSITION.** Bred for **HEAVY PRODUCTION** of **LARGE WHITE EGGS.** Some very choice pens for sale. Write for prices.

Eggs for settings, $2 per 15.
Incubator lots, $5 to $8 per 100.

Mountain View Poultry Yards

H. C. Chamberlain, Proprietor, Cotati, Cal.

INTERVIEWS WITH POULTRY PEOPLE.

(Continued from first page)

$6 per thousand and doubled the amount of lumber. The cost for material for buildings is about $8 each. All construction was done by Mr. Harrison. Brown Leghorns, White Rocks and Rhode Island Reds are Mr. Harrison's favorites and he has some beautiful stock.

Near by, Chas. H. Stearn is fitting up an incubator and brooder plant, and will apparently have a large output when fully established. H. C. Mulholland, with Leghorns, Minorcas and Rocks, is also getting established in this neighborhood and will soon be in the field with stock of best strains.

W. W. Howard, of 3024 East Main street, Los Angeles, centers on Single Comb White Leghorns, of which he has some prize winners. His birds are large, some reaching nine pounds, and of the best laying strains of that laying breed. In appliances Mr. Howard has the simplest trap nest we have yet seen. It is a patented arrangement, at the same time so simple and so easily made as to soon cover any cost of patent. It is readily attached to any box or nest and traps the hen without startling her.

Mrs. Moore, of Lamanda Park, takes great pride in her Indian Games, finest bird for the pot there is raised. Her yards are models of neatness. Scratching sheds are provided each run. Bronze turkeys and W. Rocks are other breeds carried by Mrs. Moore.

The Neff ranch, at Inglewood, has the largest acreage devoted to poultry of any ranch near Los Angeles. It is not yet fully occupied, but several hands are busy getting land and buildings into shape.

Captain Mitchell's yards at Santa Barbara is another model, not large, but everything tasty and neat. This place was illustrated and described in the issue of February 12.

H. H. Holland, of Fresno, has large yards and in number of varieties nearly a dozen. Mr. Holland puts business methods into his poultry business and his prize winnings at the various coast shows shows that he has fine stock.

These few successful plants are only an indication of the work being done on all sides. Look about and you will see such improvement being made as never before.

The following weather conditions are reported for the week ending February 29th: The weather during the week was warm and generally favorable for growing crops. Rain fell throughout the State, varying from one inch in the southern districts to over five inches in portions of the northern section.

On the low lands along the Sacramento, Yuba, Feather and other northern rivers the flooding of the grain fields will undoubtedly result in great losses, the extent of which cannot yet be even approximated. On the higher lands of the northern section and in nearly all other parts of the State the rainfall was beneficial, and crop prospects are better than at any time during the season. Grain is making rapid growth and looks strong and healthy. The acreage in the southern districts is being increased and the outlook there is considered very good. Green feed is plentiful in nearly all places, and cattle are generally in good condition. There is said to be some danger that the floods have ruined hop fields in portions of the Sacramento valley.

There has been but little injury to orchards and vineyards this season by frosts, and fruits prospects are excellent in all parts of the State.

BUSINESS NOTES.

The Imperial Investment Company, of Los Angeles, has arranged to run an excursion to the Imperial Valley every Tuesday during March. This will afford an excellent opportunity for those who are desirous of making an investigation of the developments that have taken place in that section of the country. There has been wonderful growth in that section during the past few months, so that a trip there will possess great interest for a great many. The Investment Company are located at 218 West Third street.

LIVE STOCK HUSBANDRY.

One of the important foundation stones of agriculture is live stock husbandry. By many this is believed to be the most profitable branch of farming. Some practice the feeding of all they grow to live stock raised on their farms. Certain it is that the nation that tries to farm without live stock runs the chance of impoverishing its lands. This has sent more than one nation into decay. Still, to raise live stock sucessfully one must have a good brain and lack laziness. There are some farmers that hold to grain growing because they have to work only a few months out of the year and have the balance of the time in which to rest. Such men are blamed sometimes because they do not go into stock raising in addition to grain raising. The probability is that if they did go into the raising of stock they would neglect it and so lose money. By bad methods it is easy to lose money rapidly in stock raising. Every man that is willing to study his work and has had experience in the general work of farming can go into the business of breeding and feeding farm animals with good chances of success; but before taking such a step the full cost should be counted.

E. A. Bost of Pomona, is one of the newer comers amongst the White Leghorn fanciers, and announces his stock this week to the Cultivator's ten thousand.

Cockerels Barred Rocks, Black Langshans, Light Brahmas and Partridge Cochins. Over thirty of these choice birds at $2 and $3 each. Eggs, $1.50 per 14. **B. B. P. YDS., CARLSBAD, CAL.**

BUFF COCHINS

And SILVER GRAY DORKINGS. Won 1st prizes at all California shows. Eggs, $2.00. Males to sell. Sure Hatch Incubators kept in stock for sale. **Harry McIntire, 27th & D, San Diego**

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.

LOUIS S. FLETCHER, ANAHEIM. CAL.

S. C. W. LEGHORNS

Strong constitutional birds. Small pens. Fertile eggs guaranteed. Reasonable prices for commercial hatching. Pains taken in packing.

E. A. BOST, 514 W. Crow Ave., Pomona, Cal

Eagle Hill Poultry Farm

JUST WYANDOTTES

GOLDEN LACED BUFF and SILVER LACED WHITE

All hardy farm raised stock. 75 per cent fertility guaranteed. Eggs per setting, $2.00; 3 settings for $5.00.

A. B. Bland Fernando, Cal.

Barred Plymouth Rock Eggs for Hat.

1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15

MRS. Z. A. WOLLAM,
W. CENTRAL AVE. RIVERSIDE, CAL.

19 Ribbons at San Francisco and Los Angeles Shows. Entries 26.

EL ORO POULTRY FARM

FRESNO, CAL.

H. H. HOLLAND - Proprietor

Booking orders for eggs from yards of White and Brown Leghorns, White Buff and Barred Rocks, Blue Andalusians, Light Brahmas, Silver Spangled Hamburgs, Buff Cochin Bantams, Black Minorcas, Pekin Ducks and Bronze Turkeys.

THE NATURAL HEN INCUBATORS AND BROODERS

Points of Merit That Are Causing Such Large Sales of These Machines All Over the U. S.

A continual circulation of pure, fresh, warmed, moist air in every part. Chicks can regulate their own wants as to heat and air by having a range of from 60 to 100 degrees to go into. Chicks will not crowd, as they have warm material to place their backs against similar to the old mother hen. No chilling or overheating. Lamp fumes or gasses entirely separated from chicks and fresh air. Brooder can be heated up in fifteen minutes in any season. The most economical on oil of anything in the shape of a brooder. One filling of lamp—3 quarts of oil—will last from five to seven days in mild weather. The incubator is guaranteed to hatch chicks as strong as the hen can. The only brooder that has and is capable of raising 100 per cent, not only once, but time after time. Our catalogue and book combined will explain more of the merits that have made these machines famous. Send for it. Mailed on receipt of 10 cents in stamps. It has helped thousands to success that have previously failed with other makes.

F. S. LOW & CO.
PETALUMA CALIFORNIA

Albers' Black Minorcas

Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.

EGGS COCKERELS CIRCULAR

GEO. R. ALBERS

4849 Marmion Way Los Angeles, Cal.

NESTS FULL OF EGGS

no Cholera, Roup, or Sick, Droopy Hens, but Healthy, Laying ones instead, is the paying result of using

Prussian Poultry Food

Last year my egg crop was a failure, though I have some good bloods and gave them plenty of grain, etc. I began feeding Prussian Poultry Food and I never imagined the results—the nests have been full of eggs every day.—G.W. Arbogast, Fischers Grove, Ia.

CURED CHOLERA AND ROUP.

Our chickens commenced dying with cholera. We purchased one package of Prussian Poultry Food and fed it according to directions and saved our flock. A few weeks ago we discovered that some of our chickens were affected with roup. We purchased another package of Prussian Poultry Food and stopped the disease.—D. D. Avery, Concord, Minn.

Hens are Kept Free from Lice by use of *Prussian Lice Powder.*

Prussian Poultry Food is sold in Pkgs., 25 and 50c; Pails, $3.50. A Poultry Book Free.

Prepared only by PRUSSIAN STOCK FOOD AND REMEDY CO., St. Paul, Minn.

Germain Seed Co., Pacific Coast Agents, Los Angeles

this v

POULTRY POINTERS.

Watch the brooder lamps.

Send the fat, lubberly hens to mar-et.

Pure bred fowls will produce more esh and more eggs than mongrels.

In marketing, eggs should be clean nd fowls well fattened and dressed.

The best poultry managers all feed ut alfalfa hay to laying hens in win-er.

Pullets rarely make good mothers; ave some of the old hens for hatch-ng.

Have movable roosts in the hen-ouse, so they can be more readily leaned.

Chickens raised in brooders should e fed the same as those that are with ens.

The incubator gets there with both eet when it comes to hatching chick-ns in winter.

Good threshed oats or cracked corn ake a good feed for the hens during he winter to make up a variety.

Fowls require more grain in winter han at any other season in order to aintain animal heat.

When your hens get sore feet, or ave bumblefoot, it means that your oosts are too high.

Sunflower seed will help materially n egg production, but a very small uantity will make a feed.

Corn is fattening and heating, and luring the winter can be fed at night o a good advantage.

Sudden appearance of disease often ollows warm weather in winter. Such isease is apt to be canker—similar to iphtheria, and very destructive. Tinc-ure of iron in drinking water and good are are preventives. A cure would ot amount to much.

BUYING EGGS OF PURE BREEDS.

Order your eggs early, so as to avoid elay. Remember that the breeder may ave no eggs when you write to him, nd must wait for his hens to lay them. Ie will always fill the orders that each him first in preference and de-ay may result, for which he is not re-ponsible. Do not wait till a hen be-omes broody. It is better to send the rder for the eggs and take the risk of rocuring a setting hen when the eggs rrive. If they reach you too soon, eep them in a cool place and turn hem daily. Do not delay your order, owever, as you will not receive them oo soon.—Woman's Farm Journal.

Do not keep the hens crowded—wenty hens in a 10x10 house will lay nly half the eggs that ten hens will. This has been demonstrated time and gain, and is one of the rules that nust be followed if success is obtained.

If you have any young birds among he flock which are not doing well, eparate them from the old fowls. Old tock and young never do well together. Pullets and cockerels eat more than he hens, but the latter usually drive hem away, consequently they do not hrive.

LAYING COMPETITION.

The Cultivator is in receipt of a let-ter from H. C. Gray, of Petaluma, in which he quotes a letter giving the sta-us of the egg production in the laying competition going on between Ameri-an and Australian fowls. The first po-ition is now held by W. Wild, with Black Orpington, 91 eggs laid in Jan-uary. Mrs. Hansel, of Loup City, Ne-braska, holds second position, with Brown Leghorns, 47 for January. W. S. Hays, of this State, with White Wy-andottes, holds twelfth position.

VETERINARY DEPARTMENT

BY DR. W. J OLIVER,
109 No th Broadway, Los Angeles

AN OPERATION NECESSARY.

Editor Cultivator: I have a fine cow, 6 or 7 years old that can not get with calf. She comes in heat every three weeks. She is all the cow I have and is quite fat, perhaps too fat. I feed her wheat bran, alfalfa, and pumpkins. Would running with other cattle do any good.—O. G. H.

Your cow will require an operation. The neck of the womb is closed. It will require the use of an instrument to dilate it. Call in a qualified veterinary surgeon.

* * *

INJURED BY WIRE.

California Cultivator: I have a blooded mare that I use for breeding only. Six years ago she cut her right hoof on barb wire; it healed but left the foot a little larger than its natural size, and very tender, but she was never lame. About a month ago she became lame, the foot swelled and broke in two places just above the hoof. There is a free discharge. It looks like the mare will lose her hoof. The mare was in good condition, but is falling off rapidly. Will she lose her colt and what can I do to heal the wound.—W. J. Crow.

Use a saturated solution of chloride of zinc; soak antiseptic cotton in solution and pack both holes full, being careful not to get any on the hair, as it will destroy it. After three days remove packing and all loose tissue. Follow with injection of sulphate of zinc, one oz. to the pint of water twice a day.

Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
F. E. Seaman, Upland, Cal

200-EGG INCUBATOR $12.80
This perfect 200-egg Wood-en Hen at $12.80 is a startling trade innovation. It will do the work of the most costly hatcher, and always keeps in order. Hatches every fertile egg. Catalogue with fourteen colored views sent free.
GEO. H. STAHL, Quincy, Ill.

Mammoth California White Sunflower Seed
Poultry prefer it to anything else. Makes them thrive wonderfully. Large packages fresh seed, postpaid by mail, 1 package, 50c; 3 packages, $1.00.
Address **Cal. Poultry Supply Co.**
321 S. Third St., San Jose, Cal.

Just Received, a Carload of
WHITE
Egyptian Corn
For planting or feeding. $1.70 per 100 lbs. Special Quotations in Quantities.
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A Practical Poultry Plant
in Southern California
By Captain E. Pryce Mitchell of Santa Barbara
A Practical Book by a Practical Man on success in California Poultry Raising.
$1.25 POSTPAID
Book will be issued within the next week. Order at once and get the latest on poultry raising. Cultivator readers may have the first copies issued by writing at once to this office.
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YOU DON'T NEED TO
Stay Up at Night
In order to have successful hatches when using the
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INCUBATORS
Self Regulating — Non Moisture
Self Ventilating — Most Economical
FREE—1904 Catalogue—Free
Darling's Genuine Beef Scraps
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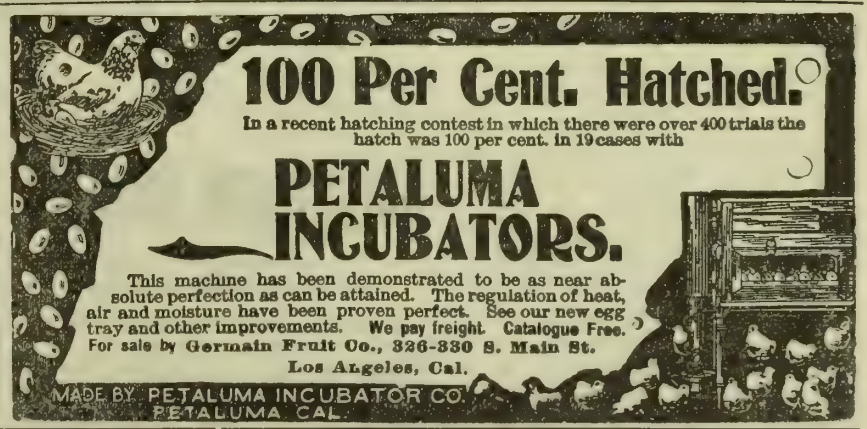
100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
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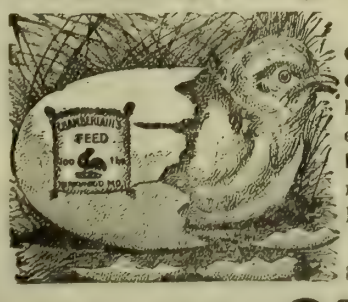
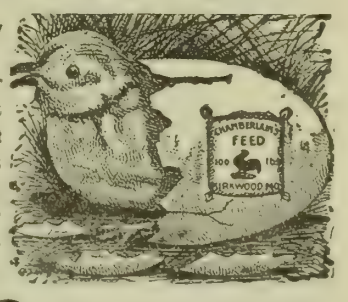


World's Chick Feed of To-day. The only original **dry Chick Feed**—all others are worthless imitations. **Chamberlain's Perfect Mash Egg Feed** supplies your hens in winter with grass and meat, and is the greatest egg food known. Feed your hens **Chamberlain's Perfect Hen Feed** night and morning, **Perfect Mash Feed** at noon and you will have eggs winter and summer. Chick Feed for sale at $3.25 per 100 lbs.; Hen Feed $2.75 per 100 lbs.; Mash Egg Feed $2.20 per 2-bushel sack; Evergreen Shredded Clover (green as grass) $3.25 per 100 lbs.



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PACIFIC COAST AGENTS. **LOS ANGELES, CALA.**
SPECIAL PRICES ON TON LOTS.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

THE LARGEST TREES.

While the Sequoias of California are the largest and tallest of trees where both height and diameter of trunk is considered, they are not the world's largest tree in either girth or height. A chestnut (Castanea vesca) growing on the slope of Mt. Etna, known to European travelers as the Castagno di cento Cavalli, is 68 feet in diameter. Another, the grandest and most majestic tree, prehaps in all Europe, is growing about one and a half miles farther up the mountain and is 26 feet in diameter two feet above the ground, in good condition and of extremely perfect form; the larger one mentioned being now but a ruin. This tree seems perfectly at home in all parts of California, one of our fastest growing and most handsome shade trees among exotics.

Baron Von Mueller records a eucalypt, the Messmate or Giant Gum of Australia (Eucalyptus amygdalina), which measured 471 feet in height. It seems to be no uncommon find to discover specimens of this tree surpassing in height our Sequoias. This trees also thrives with us and makes a fairly rapid growth. Prof. McClatchie, however, states that its growth has not been so rapid in California as that of other species, in no wise noted for their extreme size.

Specimens of a Mexican cypress (Taxodium mucronatum) have been found to have a diameter of 40 feet, and the same is claimed for the Oriental Plane (Platanus orientalis). In diameter our Sequoia gigantea stands next and we have numerous trees aside from the redwood, which attain a height of 300 or more feet.

* * *

HARDY PALMS, ETC.

Many complaints are heard from people who live in the colder sections of our State, that they cannot grow palms and such tropical plants and must therefore confine themselves to the deciduous trees and evergreen from the east.

In the southern part of England and Ireland they can and do grow The Windmill palm (Trachycarpus excelsus), the Dwarf Fan palm (Chamaerops humilis), and the two plants usually known here as Dracenas (Cordyline indivisa and C. australis). It seems to the writer that the Coquito palm (Jubaea spectabilis) would also thrive there, though no record of such can be found. Not only do the above plants grow in those countries, but they ripen fertile seeds, making it certain that their growth would be successful anywhere in California except in the cold mountain regions.

* * *

RARE PAMPAS GRASSES.

Many lovers of pampas grass are forced to do without a plant by reason of the great size to which it grows, others are deterred from planting it because "it is so dreadfully common." There are numerous forms of this grass to be had, many of which are of smaller growth than the common type and many, while not more beautiful than our common form, certainly very rare as yet. There are several shades of pink, the original type of which was found growing among the whites in South America. Since that time horticulturists have produced many shades of pink—some almost red. Most of these are of French origin and have not reached us as yet. There are also many with variegated leaves, striped or banded with either white or yellow. As yet, but one pink flowered form and only one variety with variegated leaves are to be found in California nurseries.

* * *

ENGLISH NAMES FOR PLANTS.

The writer has been accused (and justly so) of giving English names to plants, where none has heretofore been known. The case cited in particular is that of Jacaranda ovalifolia, a common tree, which the writer, in describing called the Blue-flowering Tree Bignonia—merely descriptive and explanatory—no one need use it unless they choose—it is more true to the tree than the scientific name, or any other that can be given in English. Scientific names should always be given for purposes of absolute identity, but it is a pity if an English speaking person, talking to those using the same tongue, cannot find proper names for common plants in our own language. Where there is an English name it should always be given, especially in books and papers intended for the grower rather than for botanists and other scientists. Where no English name exists and there seems to be need of one, either by reason of the hideousness of the Latin name or other cause, one who is thoroughly familiar with the plant is more than justified in supplying the deficiency—it is his duty. The important thing is the plant, not the name—many persons are very familiar with a plant whose name they cannot remember—simply because it conveys no meaning, being in an unknown tongue. Did it have an English name—one that had a meaning—he could readily remember the same. It is the aim of this department to be practical at all times and scientific when and where science is of unquestioned value to the reader.

TREES FOR CAPITOL PARK.

The Capitol Commissioners have received a communication from the Bureau of Plant Industry of the United States Department of Agriculture at Washington announcing the fact that the bureau is anxious to send out a number of trees to be planted in the park in order to ascertain if they will grow and flourish in this climate. As the Commissioners have signified their willingness to accept the plants, they will be forwarded shortly.

The consignment will include two plants of cupressus sempervirens, a remarkably slender and regular growing cypress, brought to the United States from Austria; two plants of the maytenus boaria, a beautiful evergreen shade trees from South America; four plants of the piptadenia cebil, a South American tree resembling the acacia. The bark of this tree is used for tanning purposes; two plants of the caesalpinia gilliesii, another South American tree, and two plants of the grabowskia glauca, a thorny solaneaceous shrub of South American origin. It has glaucous leaves and pale blue flowers and is a very desirable ornamental plant.—Sacramento Union.

SALZER'S FARM SEED NOVELTIES

Salzer's National Oats.
Most prolific Oats on earth. The U. S. Dept. of Agriculture, Washington, says: "Salzer's Oats are the best out of over four hundred sorts tested by us." This grand Oat yielded in Wisconsin 156 bu., Ohio 187 bu., Michigan 231 bu., Missouri 255 bu., and North Dakota 310 bu. per acre, and will positively do as well by you. Try it, sir, and be convinced.

A Few Sworn to Yields.
Salzer's Beardless Barley, 121 bu. per A.
Salzer's Homebuilder Corn, 304 bu. per A.
Salzer's Big Four Oats, 250 bu. per A.
Salzer's New National Oats, 310 bu. per A.
Salzer's Potatoes, 736 bu. per A.
Salzer's Onions, 1,000 bu. per A.

All of our Farm and Vegetable Seeds are pedigree stock, bred right up to big yields.

Salzer's Speltz (Emmer).
Greatest cereal wonder of the age. It is not corn nor wheat, nor rye, nor barley, nor oats, but a golden combination of them all, yielding 80 bu. of grain and 4 tons of rich straw hay per acre. Greatest stock food on earth. Does well everywhere.

Salzer's Million Dollar Grass.
Most talked of grass on earth. Editors and College Professors and Agricultural Lecturers praise it without stint; yields 14 tons of rich hay and lots of pasture besides, per acre.

Salzer's Teosinte.
Salzer's Teosinte produces 113 rich, juicy, sweet, leafy stocks from one kernel of seed, 14 feet high in 90 days; yielding fully 80 tons of green fodder per acre, doing well everywhere, East, West, South or North.

Grasses and Clovers.
Only large growers of grasses and clovers for seed in America. Operate over 5,000 acres. Our seeds are warranted. We make a great specialty of Grasses and Clovers, Fodder Plants, Corn, Potatoes, Onions, Cabbage, and all sorts of Vegetable Seeds.

For 10c in Stamps
and the name of this paper, we will send you a lot of farm seed samples, including some of above, together with our mammoth 140 page illustrated catalogue, for but 10c in postage stamps.
Send for same to-day.

JOHN A. SALZER SEED CO.
LA CROSSE, WIS.

ORANGE PLANTS
Seed Bed Stock, clean, thrifty and well rooted
J. M. CARSE
Wilson Ave. - Alhambra, Cal.

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Growers of Deciduous, Citrus and Ornamental Trees and Vines
THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
SEND FOR PRICE LIST AND CATALOGUE
Jurupa Nursery Co. Riverside, Cal.

Our Sales in 1903 Over 3,000,000
Try Them—We Guarantee Satisfaction

Price Standard Size, $17.50 per M.
A cheap, effectual and permanent method of propping trees
Cheaper than driving staples in the limb, and no possible damage to tree.
Cheaper than boiling rope, because permanent.
Samples Free to Orchardists
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PROSPECT PARK P. O., CAL.
—ROSE BUSHES EXCLUSIVELY—
If you want the best in rose bushes, go to the specialist who does one thing well. We grow and handle only such roses as do best in this climate. All bushes sold are sturdy, vigorous thoroughly dormant, and will bloom within a few months.
PRICES
No. 1 size, 30 inches high, 50c each, $4.50 per doz
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LIVE OAKS STERCULIAS
Acacias
and other Shade and Ornamental Trees.
Ferns, Palms and Decorative Plants.
Choice Flower, Garden and Tree Seeds.
Theodore Payne
SUCCESSOR TO HUGH EVANS
NURSERYMAN AND SEEDSMAN
440 South Broadway Los Angeles, Cal.

Make Your Own Fence...
We will furnish the wire at 2c per pound, No. 14 guage. Weighs about 1¼ pounds single strand per 100 feet. Figure it yourself and get a good fence cheap. You make mesh or openings to suit requirements. This is galvanized wire that has been used for other purposes, or it would be worth two or three times our price. Remit for amount required and get quick shipments. No quantity under 100 pounds supplied.
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APPLE PLUM
CHERRY PRUNE
PEACH APRICOT
GRAPE VINES LOGANBERRY MAMMOTH BLACKBERRY
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If you want unirrigated California grown trees—best for our dry climate—we have them.
Send for Catalogue and Price List
JAMES WATERS, Prop. Watsonville, Cal.

ROCKING THE BABY.

I hear her rocking the baby—
Her room is just next to mine—
And I fancy I feel the dimpled arms
That around her neck entwine,
As she rocks and rocks the baby
In the room just next to mine.

I hear her rocking the baby
Each day when the twilight comes,
And I know there's a world of blessing and love
In the "baby bye" she hums.
I can see the restless fingers
Playing with "mamma's rings,"
And the sweet little smiling, pouting mouth,
That to her in kissing clings,
As she rocks and sings to the baby,
And dreams as she rocks and sings.

I hear her rocking the baby,
Slower and slower now,
And I know she is leaving her good-night kiss
On its eyes and cheeks and brows.
From the rocking, rocking, rocking,
I wonder would she start,
Could she know, through the wall between us,
She was rocking on my heart?
While my empty arms are aching
For a form they may not press,
And my emptier heart is breaking
In its desolate loneliness.

I list to the rocking, rocking
In the room just next to mine,
And breathe a tear of silence,
At a mother's broken shrine,
For the woman who rocks the baby
In the room just next to mine.

—Madge Morris Wagner.

A DOUBLE GAME.

"I tell you," said the man, doggedly, 'that I can produce a self-steering tor-pedo which answers to every one of our specifications. Any other fleet lies at your mercy with it."

"And you ask?" questioned the Minister.

"Only the means to complete my invention, and £200,000 down when it was justified my specifications."

"And if we refuse?" queried Lord Pennyfeather.

The man rose abruptly and took up his hat.

"The French Government would not be so foolish," he said curtly.

There was silence for some moments. Tall, angular, thin to emaciation, Patrick O'Hara was chiefly remarkable for his piercing black eyes, which glowed like living coals in his pale, haggard face.

"Your answer is?"—he asked, with a movement of impatience.

"If there is anything in it, 'Yes,'" replied Lord Pennyfeather. "It's a lot of money, though.

* * *

The young man sprang into a hansom cab, gave a hurried direction, and flung himself back among the cushions impatiently. For he had pledged himself to report to his chief on the authenticity of a rumor that had reached the information bureau of the Admiralty within a week, and of the week only two hours remained.

The horse was weary, dog-tired. Rain fell in torrents, and gusts of wind drove it through the open window.

"What a climate," he muttered resentfully. "Phew!"

Five minutes later the horse stumbled on the slippery wood pavement, and fell headlong.

Dick St. Aubyn was flung on the road, where he lay for a moment stunned.

The accident had occurred in a narrow street, where the houses showed "lodgings" stamped in every detail of their sordid structure. A door opened, and a flood of light illuminated the street.

The cab driver was cursing and grumbling in his efforts to raise his horse.

"My God!" cried a girl's voice. "The man is dead! Father, father, how terrible!"

In a moment the slight, black-robed figure was kneeling beside Dick, scanning his pale face.

Dick's eyes opened and looked straight into her own; then closed again.

It was half an hour later before he regained consciousness. He lay in a poorly furnished room, on a hard horsehair sofa, a delicate-looking girl leaning over him, and a tall, dark man standing behind her.

"Where am I?" he asked, putting his hand to his head.

"With friends," said the man kindly enough. "Stay quiet till you feel better."

But a flood of memory rushed over Dick's mind. He struggled to his feet, grasping the sofa for support.

"I can't!" he muttered. "I have to keep an appointment."

The room swam before his eyes, but he was obdurate. A cab must be called at once; his business was urgent, imperative. So the man, without further demur, left the room to obey his wishes. The girl stood silently watching him.

Dick turned toward her. "I must thank you," he said, "for your kindness." Then he stopped. It was the most wonderful face he had ever seen; the most beautiful, he told himself, the most bewildering.

The girl inclined her head slightly.

The door opened abruptly and the man stood on the threshold.

"Your cab is here," he said.

Long after Dick St. Aubyn's cab wheels had ceased to echo through the silent street the man stood on the wet pavement.

"Twenty-five Barkley street," he muttered. "What on earth is he doing there? And who is he?" for 25 Barkley street was the private residence of the First Lord of the Admiralty.

* * *

The butler flung open the door and announced Mr. St. Aubyn.

Lord Pennyfeather rose with a smile, "Just within your time, St. Aubyn," he said.

Dick, covered with mud, disheveled and pale, staggered into the room.

"A cab accident!" he ejaculated, as he sank into a chair. "Delay unavoidable."

"I have learned on the best authority that France has discovered a genius who promises her a new self-steering torpedo within two months. The naval experts across the channel evidently pin their faith on it. This may, or may not, account for the uncompromising attitude the Dual Alliance has adopted."

There was a silence, a heavy pause.

"Self-steering torpedo," said the Minister, after a long silence. "It's a curious coincidence. This very day I had an interview with an inventor, or a crank, who promised—Did you hear," he added sharply, "whether the torpedo was steered by a new application of a submarine electric current?"

Dick shook his head. "I could learn nothing definite beyond the fact," he answered.

"Look here, St. Aubyn," continued his chief, briskly, "you have done admirably. You must now discover the details of the new French torpedo.

* * *

St. Aubyn had been in Paris for 10 days; he was absolutely nonplussed, a most unusual position for that acute, intelligent officer to find himself in.

Dressed as a beggar, he remained outside the French Admiralty office, noting with his keen eyes every man, woman, or child who entered. St. Aubyn was acquainted with half the men who passed through the doors, but, in spite of this, he learned nothing.

One man passed in whose face Dick knew, but could not put a name to. He puzzled long, but could find no place for it in his memory. The government confidential clerk knew no more, if as much, as he did himself. He returned disconsolately to England at the end of 10 days, and reported his lack of success at 25 Barkley street.

"I don't like it," said Lord Pennyfeather, in glancing over his report. "It looks too much as if they had wind of a patent we are experimenting with ourselves. That invention I told you of——"

"May I interview your protege?" asked Dick. "He probably knows the names of the men working on the same lines."

Ten minutes later Dick St. Aubyn was bowling along in a hansom cab, acompanied by the Minister's confidential secretary. In five minutes he was standing in a large workshop, crowded with models of torpedoes, in which half a dozen men were working laboriously. Cyril Hardacre, the secretary, took

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him into a smaller room beyond. A man writing at a desk lifted his head quickly, and rose to greet them.

Dick uttered an exclamation of surprise. "Why, you are the man who was so kind to me the other night!" he cried.

He held out his hand, and the other placed his long nervous fingers for a moment in his grasp. "I should much like to call and thank your daughter for her hospitality, if you will allow me," he added.

Dick found it impossible to fix his mind on explosives and infernal machines.

He shook himself angrily. What a time to be engrossed in lover's dreams, when his business was urgent and his reputation at stake. He strode along the streets, resolutely fixing his attention on the matter of torpedoes, but do what he would the pale face and deep-set eyes of Eileen's father remained before him. Suddenly he paused, his brow knit, his face clouded.

"Damn!" he muttered. "What was Patrick O'Hara doing in the French Admiralty offices last week? What a fool I was not to recognize his face before!"

* * *

"You aren't in earnest, St. Aubyn?" asked Lord Pennyfeather, looking at his visitor open-eyed.

"I wish to God I was wrong, sir," said poor Dick. "O'Hara is a swindler; he is selling his torpedo model to the French Government on the same terms as he is selling it to the English. The identical torpedo is being built in their workshops as in ours, and Patrick O'Hara works at it for a fortnight there, then for a fortnight here. He intends to get £200 000 out of each Government and then disappear."

Half an hour later Patrick O'Hara was confronting the First Lord of the Admiralty and Dick St. Aubyn.

"O'Hara," said the former quietly, "your treachery is discovered. The French model"—

The man turned livid. He gazed around him like some hunted animal seeking for a means of escape.

"The room is watched," said the Minister, quietly; "policemen are under the windows and at the doors. You are a prisoner. Great Heavens! St. Aubyn, quick!"

With a gasping, choking rattle in his throat, Patrick O'Hara flung up his arms and fell heavily forward.

"Heart disease," said Lord Pennyfeather, softly. "Has he any relatives?"

"A daughter," said Dick. His lips were dry, the words choked him.

"You had better go and break the news to her, St. Aubyn," said his chief. "You told me you knew her, I think."

* * *

Eileen gave Dick a letter, addressed by her father to the English Government, which set all doubts as to her knowledge of his guilt at rest.

Patrick O'Hara had conceived the crimnal plot of duping two governments in order to enrich the girl he felt he might so soon be called upon to leave penniless. He asked only that she might be kept in ignorance of her father's guilt if death claimed him and his duplicity were discovered.

And Dick swore to himself on the day that Eileen O'Hara became Eileen St. Aubyn that his wishes should be respected.—Exchange.

The University of California is establishing a correspondence school whereby farmers all over the State may receive an education in agricultural pursuits without leaving their plows and coming to the University of California.

RECIPES

Eat Little, but Have That Little Good

Fried Squash.—Part, remove seeds and cut in slices two inches thick, arrange in a cold skillet, add a large tablespoon of butter, sprinkle over ½ cup sugar, cover and let fry, watching closely to prevent burning. Add a little water if necessary.

* * *

Steamed Squash.—Cut up in small pieces a dry, rich looking squash. Put into granite kettle, add ½ cup water, cover tightly, set where it will cook very slowly. Stir occasionally to prevent sticking. When done the water should all be evaporated. Beat up light, add lump of butter, a little sweet cream, and serve.

* * *

Squash.—If the squash is hard-shelled chop it in large pieces and steam over some other vegetable that you are cooking for dinner, to save room on the stove, and when perfectly done scrape out in a pan or crock and season with salt and a tablespoon of sugar and mash thoroughly, then add ½ cup thick cream and whip until light and fluffy like whipped potato. Serve when hot.

* * *

Sweet Pickled Squash.—Part, remove seeds, and cut into pieces 2 by 3 inches. Boil till tender, but not soft, in salted water, drain. Have ready enough vinegar to cover. To each cup of vinegar add 2-3 cup sugar, cinnamon, cloves and ginger to taste. Boil and pour over hot. Put on weight and tie down. Will be good in 24 hours. If vinegar is very sour add part water. These are fine.

* * *

Horseradish Sauce. — Horseradish sauce is to be served hot with roast beef. Mix together, in order given, the following ingredients: Four tablespoonfuls of grated horseradish, four tablespoonfuls of powdered crackers, one-half of a cupful of cream, one teaspoonful of powdered sugar, one teaspoonful of salt, one-half of a saltspoon of pepper, one teaspoonful of made mustard and two teaspoonfuls of vinegar. When all the materials have been thoroughly mixed, heat them very hot over boiling water.—New York Post.

* * *

Parsnips should be cooked the day before you wish to use them. Peel and boil whole and set away to get cold; when you wish to use them slice lengthwise, roll in flour, and have a couple of tablespoons of hot grease in a frying pan and fry them a rich brown. Slice a common sized parsnip in about three slices; serve very hot, and your good husband will be asking every other day, "When are we going to have parsnips again?"

FOR WHITE HANDS.

Cleanliness is the first essential, and therefore when rough work has to be done it is well, if possible, to put on gloves. Prevention is better than cure, and as nothing spoils the hands like getting them grimed this should be avoided as far as possible. It is, however, not always possible to wear gloves for dirty work, so one must be prepared for one's hands being sometimes very much soiled. When this is the case, don't go to work upon them with soda, soap and brush, for that would roughen them dreadfully. Instead, take some vaseline, lard or oil and rub it into the hands, and then wash them thoroughly with a good toilet soap and a piece of flannel in warm water. The flannel will soon clean them and without injuring the skin in any way. It is far better than a nailbrush for ordinary use, and, if used regularly, a nailbrush will be found almost if not entirely superfluous. That is a thing to be remembered, for the use of a brush roughens the finger tips and nails and makes them more liable to become soiled than they need be.

EDUCATION FOR COUNTRY YOUTH.

The proposed plan of articulating consolidated rural schools, each of which cover an area from three to five miles square; agricultural high schools, each to cover nearly a dozen counties; and the agricultural college course in the State University or State college of agriculture and mechanic arts, will meet the needs of four factors—namely, the pupils, the teachers, the courses of practical instruction, and the subjectmatter to be taught. The fact that nearly every farm boy and girl who has had the advantage of a course of study in the Minnesota Agricultural High School is not only enthusiastic in its praise but desires to live on a farm, is proof that the school has a faculty of instructors peculiarly adapted to its work, and that the plan of the school and the available subject matter are such that agricultural high-school education succeeds and meets the need. While the home, the consolidated rural school, and the agricultural high school train for the farm home, there is large need for teachers, experimenters, writers, and other specialists with higher training, such as is supplied in the college course in agriculture. The proposed system of three articulated classes of schools needs all along the line teachers broadly and technically trained. No doubt many of these teachers must be educated in existing high schools, academies, and normal schools which more or less closely articulate with agricultural colleges.—Willet M. Hays.

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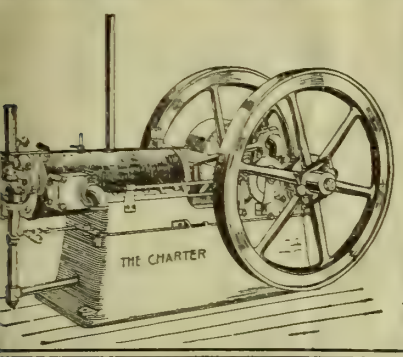

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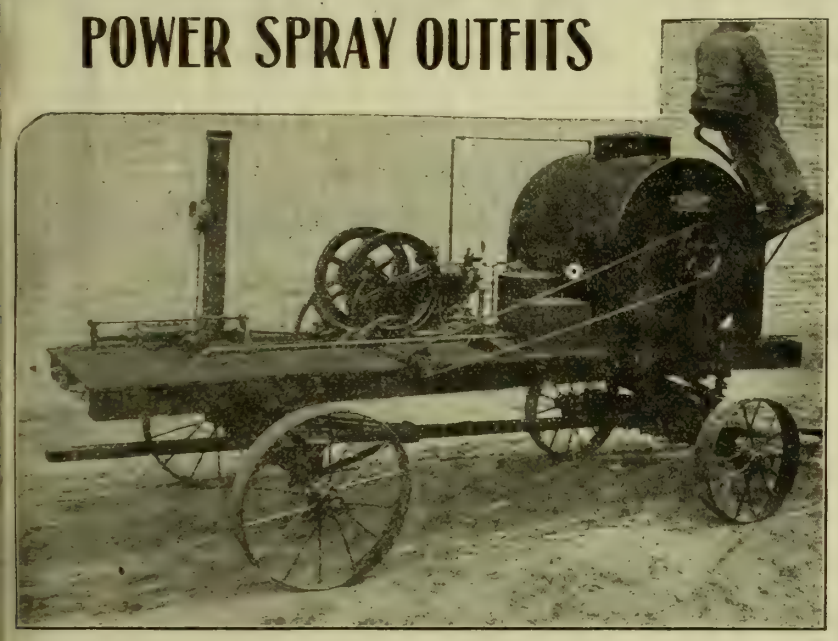

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Los Angeles Markets.

Los Angeles, March 3, 1904.

There is a feeling of satisfaction prevailing among the dealers in the various line relative to the more favorable conditions which are now in evidence.

The supply of all provisions has increased during the past week, which has caused a weaker tone.

Butter.

Butter remains steady at last week's quotations, as follows:

B. of T. Creamery, 2lb roll		70
So. Cal.. dairy do	60	62½
Cold Storage	50	55
Cooking, lb.,	21	23

Cheese.

Best domestic grades are in fair demand, and remain firm at the prices quoted.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	17	
Swiss	19	
Imported do	28	

Eggs.

The quotation on eggs is 2 cents lower than the price heretofore quoted. It is reported from the country that there is a good supply. A further decline is expected.

Fresh ranch	18	19
Store, case count		16

Poultry.

All varieties are very scarce. No. 1 hens are quoted 1 cent higher. No further advance is expected soon. Consumers are substituting other goods.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	20	22
Turkeys, cold storage	22	23

Live Stock.

Prices remain firm at last week's quotations. Best beeves are in very good demand.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Heifers, cwt	3 00	3 75
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

First class varieties are advancing in the north. Local dealers report that there is an immense demand for seed. Sweet potatoes are also scarce. Market steady.

River, per cwt		1 60
Oregon, do		1 75
Local Sweets, white		3 00
Early Rose seed		2 00
Pinkeye, do		1 60
Nevada Pearls, do		1 60

Vegetables; Mixed.

All varieties are freely offered. The situation is reported as weakening on all kinds of vegetables, and lower quotations are expected.

Onions, yellow, per cwt		2 25
Nevada, fancy do		3 00
Beets, per 100 lbs		1 25
Cabbages, do		1 25
Green Peas	05	06
Lettuce, per sack		40
Tomatoes, 25 lb crate		2 00
Celery, per doz		35
Celery, per doz		40
Hubbard squash, per ton		20 00
Carrots, per sack		90
Chiles, string		75
Cauliflower, per doz		40

CITRUS FRUITS; FRESH

Good stocks are in fair demand. Market steady, at prices quoted as follows:

Fancy, 126s, per box	2 00	
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 50	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs.	1 00	1 50
Strawberries	15	25
Loquats		05
Guavas	04	05

Fruits; Dried.

Apples	06	09
Apricots	08	09
Peaches	06	08
Raisins, per box		3 00
Raisins, loose	07	08½
Prunes	03	06
Pears		10

Beans, Dried.

Much interest is being shown in all varieties of beans. Prices all raising gradually.

Pink	3 75	3 80
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 40	3 60
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½

Hay and Grain.

Notwithstanding the varying quotations recorded from day to day relative to the grain situation in the East, the local quotations remain unchanged. Hay is causing no special interest at present, there being an ample supply to fill the demand.

Alfalfa		15 00
Tame oat		15 00
Barley hay		15 00
Wheat hay		14 00
Wheat	1 35	1 45
Barley	1 12½	1 15
Oats	1 25	1 35
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, March 3.

Dairy.

Butter is an over supply in the market at present, with an easier tone. The decline in prices is marked from last week.

Receipts yesterday aggregated 61,600 pounds Butter, 1689 cases Eggs, 5000 pounds Cheese.

BUTTER—Per lb:

Creamery, extras	23 @24
Creamery, good to fancy	21 @22
Dairy, extra	19 @20
Dairy, choice	17 @18
Store	Nominal
California storage	Nominal
Eastern, Creamery	Nominal

CHEESE—Per lb:

Cal. Creamery, mild new, extra	12
Cal. Creamery, mild new, choice	10 @11
Young America	11 @12½
Eastern, New York Cream, Cheddars and flats, new	15 @16

Eggs and Poultry.

The market for Eggs was unsettled and there was some disposition to shade prices in order to effect round lot sales. Supplies were quite liberal, but the quoted rates were conservative for the day's business. There is a strong bearish movement in evidence to get prices down to a low level, as speculators are getting ready to begin storing for the coming winter.

EGGS—Per doz:

Ranch, select large	20 @21
Ranch, select large	20 @21
Store	16 @18
California Storage	Nominal
Eastern	Nominal

POULTRY—Old Roosters, per doz., $5.50@6; young Roosters, $6.50@8; Fryers, $6@6.50; Broilers, large, $5@5.50; small, $4.50@5; Hens, small, $5.50@6.50; large, $6.50@7.50; Ducks, per doz., old, $5.50@6.50; young, $6.50@7.50; Live Turkeys, per lb., 15@17c; Dressed Turkeys, per lb., 18@22c; Geese, per pair, $2@2.25; Goslings, $2@2.25; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.25@2.50.

Fruits and Vegetables.

Trading in oranges was animated today, and with free supplies offering, the market maintained a firm tone at sustained prices. There was a lively movement reported from the stores for both local and shipping purposes, and close clearances of a desirable quality of navels were effected well within the quoted range of prices.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 75c@$1.25; fancy, $1.50@1.75.

Pears—Per box: Winter Nellis, $2.50@3.

CITRUS FRUITS.—Per box: Oranges, Navels, fancy, $1.50@2.50; choice, $1@1.50; standard, 65c@$1, according to size; Seedlings, 50@90c; Lemons, $1@2.50; extra, $2.75; Grape Fruit, $1.25@2.25; Tangerines, 50c@$1.25; Limes $6@6.50.

VEGETABLES—Asparagus, per lb., No. 1, 15@20c; No. 2, 10@12½c; Tomatoes, per box or crate, southern, $1@1.50; Rhubarb, per lb., 8@10c; Green Peppers, per lb., 20@30c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 10@15c; Wax, —; Green peas, per lb., 5@7c; Egg Plant, per lb., 20@30c; Summer Squash, per box, $1@1.25; Cucumbers, hot house, per doz., 50c@$1.25; Mushrooms, per lb., 10@20c; Garlic, per lb., 5@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at 1½@3c per lb.

The market for Potatoes clearly reflected the firm conditions noted for some days past and under a steady call for the prime table grades full figures were obtained without difficulty.

POTATOES—Per ctl.: River Burbanks, $1.10@1.20; Early Rose, $1.25@1.35; River Reds, $1@1.10; Garnet Chile, $1@1.10; Salinas and Lompoc Burbanks, nominal; Oregon Burbanks, $1.25@1.50; Nevada, $1.40; Petaluma and Tomales, $1.15@1.25; Sweet Potatoes, $2.50; New Potatoes, per lb., 1@3c.

ONIONS—Per ctl.: Oregon, $2.50@2.75; Nevada, $2.90@3.

Beans show good shipping movement and the market remains firm.

Hops.

The price for the new crop is 27@30c per lb, according to quality.

Beans.

BEANS—Prices per ctl: Large Whites, $2.60@2.75; small do, $3@@3.25; Pea, $3@3.25; Lima, $3.30@3.40; Red, $4@5; Pink, $3.15@3.35; Bayo, $2.50@2.60; Blackeyes, $2.10@2.25; Red Kidneys, $1.50@4.75.

Live Stock.

Firmness characterizes the market for all kinds of Live Stock and business in all lines continues of good volume, available supplies being quickly absorbed at strong prices. Hogs are meeting with a good demand and values for the best quality offerings show a further fractional advance. Cattle still hold marked interest and A1 steers find a quick sale at the top quotation.

CATTLE—No. 1 Native Steers, 9@9½c; second quality, 8@8½c; thing Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4@5½c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4¾@5½c, gross weight; heavy, 4@4½c, gross weight.

HOGS—Per lb.: Hard grain fed, weighing alive 130 lbs and over, 5⅝@5¾c; weighing under 13 0lbs., 5¼@5½c; weighing 200 to 300 lbs, 5@5½c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $16@18.50; Wheat and Oat, $16@18; Oat, $15@17.50; Barley, nominal; Clover, $13@14.50; Alfalfa, $13@14; Stock, nominal.

STRAW—Good to choice, per bale, 60@75c.

OIL CAKE MEAL—In lots of 20 tons, $29 per ton; 10 tons, $30; 5 tons, $30.50; less quantiti, $31. Prices are mill rates and are subject to change without notice.

OILCAKE MEAL—In lots of 20 tons, $29

CRACKED CORN—Choice quality, per ton, $29@30.

FEED CORN MEAL—Choice grades per ton $28.50@29.50.

GROUND BARLEY—Per ton, $24.

COCOANUT CAKE—In lots of 10 tons, $21; 5 tons, $21.50; less quantity, $22. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@6.10 per bbl; Bakers' Extra, $4.60@4.80; Oregon and Washington, $4.10@4.60.

WHEAT—No. 1 Shipping, per ctl., $1.42½; choice, $1.45; White Milling, good to choice, 1.47½@1.57½.

BARLEY—Choice No. 1 Feed, $1.11¼@1.13¾; off grades, $1.08¾@1.10; Brewing No. 1, $1.15@$1.21¼; Chevalier, nominal at $1.20@1.40.

CORN—Good to choice, per ctl.: California, new, large Yellow, $1.40@1.45; small do, nominal; White, $1.40@1.45; Eastern, $1.32½@$1.37½.

CRACKED CORN—Choice quality, per ton, $30@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

WOOL.

There is no material change in wool.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, March 2.—Much attention has been given the wheat market the past few days, owing to the government crop report and the unfavorable weather existing in the wheat belt. The seriousness of the Argentine railroad strike was emphasized anew in a cable from Liverpool, stating that fear of a curtailment of wheat shipments from Argentina on account of the strike caused relative strength in English markets in the face of the sharp decline here yesterday. Under these influences the market opened strong.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 92@1.00; No. 3, 85@98; No. 2 red, 93@94½; No. 2 corn, 92; No. 2 yellow, 55; No. 2 oats, 48@51; No. 2 white, 44; No. 3 white, 41½@43½; No. 2 rye, 73½; good feeding barley, 38@40; fair to choice malting, 46@58; No. 1 flax seed, 1.09; No. 1 northwestern, 1.15; prime timothy seed, 3.00; mess pork, per bbl., 14.62½@14.75; lard, per 100 lbs., 7.30@7.35; short ribs, sides (loose), 7.25@7.37½; short clear sides (boxed) 7.50@7.75; clover, contract grade, 11.65.

DAIRY MARKET.

On the Produce Exchange today the butter market was easier; creamery, 14@25½; dairy, 14@22; eggs, steady, 17@17½; cheese, steady, 10½@11½

Dried Fruits, Nuts, Etc.

NEW YORK, March 2.—The market for evaporated apples continues quiet; common, 4@5c; prime 5⅛@5½c; choice, 5½@6c; fancy, 6½@7c. Prunes are still firmly held, but without quotable change, prices still ranging from 3½@6½c acording to grade. Apricots steady; choice, 9¾@10c; extra choice, 10¾@10¾c; fancy, 12@15c. Peaches are meeting with a fair jobbing demand; choice, 7¼@7½c; extra choice, 7¾@8¼c; and fancy, 9@10c.

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CITRUS MARKETS

AUCTIONS.

NEW YORK, February 26.

A. C. G. Fruit Exchange, Pointer Navels $1.30.

C. C. U. Redlands, California Best. $1.60; World's Pride $1.45.

A. C. G. Charter Oak P. Red $1.35.

S. A. Fruit Exchange, Goddess of Fruit $1.50; Parrot Navels, $1.45.

S. B. Fruit Exchange, Pine Cone Navels $1.95.

S. T. Fruit Exchange, Our Farm Navels $1.35.

C. C. U. Casa Blanca, Daisy Navels $1.40.

C. C. U. Rialto, Rialto $1.70; Gondolier $1.45.

S. T. Fruit Exchange, Echo $1.35.

C. C. U. Whittier, Hollyhock Navels $1.50.

BOSTON, Mass., February 26, 1904.

C. C. U. Redlands, Rose Navels $2.45.

O. K. Upland, Quail $1.40.

San Bernardino Fruit Exchange, Highland, Arrowhead $2.30; Carrier $2.10.

Queen Colony, O. I. C. Navels $1.90.

A. C. G. Fruit Exchange, Pointer $1.25; frozen.

C. C. U. Alhambra, Trumpeter, $1.55; frozen.

C. C. U. Highlands, Trophy Navels $1.50; frozen. Trophy Grape $2.60; frozen.

C. C. U. Redlands, Atlas $1.25; frozen.

C. C. U. Redlands, Blossom $1.30; frosted.

C. C. U. Highlands, Geranium $1.25; frosted.

C. C. U. Highlands, Trophy $2.10.

C. C. U. Redlands, Redlands Beauties $2.05.

S. B. Fruit Exchange, Swan $2.35.

Covina Fruit Exchange, Red C Navels $1.60; Whilte C Navels $1.55.

Covina Fruit Exchange, Red C Navels $1.50.

C. C. U. Redlands, Rose $2.30.

CLEVELAND, February 25, 1904.

S. B. Fruit Exchange, Royal Knight $1.65; Swan $1.55; Ben Hur $1.40; frozen.

Riverside Fruit Exchange, Golden Rule Navels $1.55.

C. C. U. Alhambra, Trumpeter $1.50; frozen.

PHILADELPHIA, February 26, 1904.

S. B. Fruit Exchange, Carrier $1.85.

C. C. U. Alhambra, Trumpeter Navels $1.60.

Riverside Fruit Exchange, La Mesa Navels $1.70.

C. C. U. Alessandro, Perfection $1.80; Golden $1.70.

A. C. G. Azusa, Stag $1.00; Pointer $1.60.

Duarte-Monrovia, Iris $1.60; Violet $1.60.

C. C. U. Glendora, Pansy $1.80; Marine $1.70.

Duarte-Monrovia, Violet $1.65.

S. T. Lamanda, Violet $1.60; Trail $1.55.

S. A. Fruit Exchange, Volunteer $1.65; Foothills $1.55.

O. K. Fruit Exchange, Coyote $1.60.

NEW ORLEANS, February 26, 1904.

S. A. Fruit Exchange, Jewel $1.70.

S. A. Fruit Exchange, Carlo $1.60.

Queen Colony, O. I. C. $1.65; Seedless Grape $1.90; Royal Grape $1.60.

Covina Fruit Exchange, X Navels $1.55.

A. C. G. Fruit Exchange, Pointer $1.75; Hunter $1.55.

NEW YORK, February 29, 1904.

C. C. U. Redlands, Sunflower Navels $1.95.

Duarte-Monrovia Fruit Exchange, Iris Seedlings $1.30.

A. C. G. Azusa, Red Shield $1.45.

C. C. U. Redlands, Clover $1.60.

C. C. U. Rialto, Rialto $1.55; Gondolier $1.45.

C. C. U. Redlands, Rose $1.65.

C. C. U. Highlands, Stearn's Seedless Grape Fruit $2.00.

O. K. Upland, Bear $1.95; Quail $1.70; Coyote $1.50; Bear Tangs. $4.55.

C. C. U. Redlands, Rose $2.10; Clover $1.60.

Riverside Fruit Exchange, La Mesa $1.75.

Riverside Fruit Exchange, Blue Globe $1.85, Red Globe $1.60; Tangs. $2.50.

Arlington Heights, Squirrel $1.90.

C. C. U. Casa Blanca, Gypsy Queen $1.75; Carnation $1.50.

C. C. U. Redlands, Lion Head $1.80; Tiger Head $1.60.

BOSTON February 29, 1904.

Riverside Fruit Exchange, La Mesa $2.20.

C. C. U. Redlands, Rose $1.25.

V. C. Filmore, Cupid $1.35; Cycle $1.35; Circle $1.35.

C. C. U. Colton, Angel $1.25; Margeur'te $1.25.

C. C. U. Casa Blanca, Gypsy Queen $1.35; Daisy $1.35.

C. C. U. Redlands, Clover $1.85.

C. C. U. Redlands, Rose $2.30.

S. B. Highlands, Pine Cone $1.70.

C. C. U. Redlands, Redlands Beauties $2.05; Atlas $1.90.

S. T. Fernando, Rey $1.70; Tunnell $1.65.

S. B. Drew Station, Winner $2.00; Dog $1.80.

C. C. U. Redlands, Blossom $1.85.

C. C. U. Covina, Topaz $1.50; Sapphire $1.45; Amethyst, $1.45.

CLEVELAND, February 29, 1904.

O. K. Upland, Owl $1.70; Coyote Grape Fruit $2.25.

S. S. Fruit Exchange, Orange, Choice Navels $1.50.

C. C. U. Redlands, Blossom $1.85.

S. A., Selected Lemons $2.50.

NEW YORK, March 1, 1904.

S. B. Highlands, Silver Buckle $1.75; Belt $1.55.

C. C. U. Casa Blanca, Carnations $1.50; Bear Tangs. $4.30.

Riverside Fruit Exchange, Red Globe $1.60.

C. C. U. Redlands, Lion Head $1.60; Tiger Head $1.50.

Riverside Fruit Exchange, La Mesa $1.68.

C. C. U. Redlands, Clover $1.60.

C. C. U. Whittier, Hollyhock $1.30.

S. B. Highlands, Pine Cone $1.60.

C. C. U. Alhambra, Trumpeter $1.35.

Riverside Fruit Exchange, Uncle Sam $1.60; Fiesta $1.55.

Covina Fruit Exchange, Butterfly Navels $1.40.

A. C. G. Fruit Exchange, Lateen Spur Pointer Navels $1.60.

BOSTON, March 1, 1904.

C. C. U. Redlands, Sunflower $1.95.

S. B. Highlands, Pine Cone $1.90; Carrier $1.70.

C. C. U. Corona, Laurel $2.65; Princess $2.05; Halves $1.55; Halves $1.30.

Total to date this season, 9126 cars, of which 773 cars are lemons.

Total to same date last season, 7136 cars, of which 768 cars were lemons.

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The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

SYNOPSIS.

This will be a continued story describing a week's drive through the section of the country that contains the world's largest poultry farms. It will show how large sheep and cattle ranges have been changed into chicken farms. It will show how some of these farms comprise 600 and 700 acres and the poultry houses are scattered over all the hills and valleys. It will be illustrated as much as possible by photographic views. We made this trip through this country with a two-seated double rig. Mr. Chas. Miles acting as guide; Mr. Cook, the expert photographer from Woodland, Cal., took along two good cameras. Some of these poultry farms were so large it took nearly all day to take views from one ranch and two of these places in one day was considered a big day's work.

On the first day we drove out to Two Rock Valley, about 8 miles from Petaluma, and our first stop was at Charles H. Purvine's place. We found Mr. Purvine a very accommodating gentleman, for although he was very busy he gave us more than three hours of his time showing us about the place.

To give the reader some idea of the mammoth poultry farms in this section of the country, we will say that C. H. Purvine's ranch that we have described contains 240 acres and to the left of this is another of the Purvine poultry farms of about 300 acres, containing over 6500 laying hens and many thousands of growing chicks, and at the right of C. H. Purvine's place is still another of the Purvine farms on which there is more than 7000 laying hens, besides the growing stock.

Out in this country is where these large poultry farms are for miles and miles. They all own their own land, thus showing that the poultry business on a large scale is a profitable one.

One of the first objects that took our eye on C. H. Purvine's place was the growing chicks, they looked so nice and healthy. Altogether there was between 3000 and 4000 growing chicks about ten weeks old. These were all divided off into different colonies in different places, about 200 to each yard.

Mr. Purvine raised all these chicks on COULSON'S CHICK FOOD. Mr. Purvine said that Coulson's Chick Food was the best for little chicks, and that on COULSON'S CHICK FOOD he could raise the largest percentage of chicks; that they thrived better on Coulson's Chick Food than any other kind of feed and he fed them on it until they were about two months old. He showed us several yards of young roosters ten weeks old raised on Coulson's Chick Food. There were about 600 of them and the attendant was then putting them into shipping coops to be taken to market and there sold for $4.50 and $5.00 a dozen. (The roosters are separated from the pullets as soon as they get two months old.)

Mr. Purvine then showed us one of the incubator houses containing four mammoth incubators holding over 4000 eggs that would hatch out in about three days and those chicks were all going to be raised on Coulson's Chick Food.

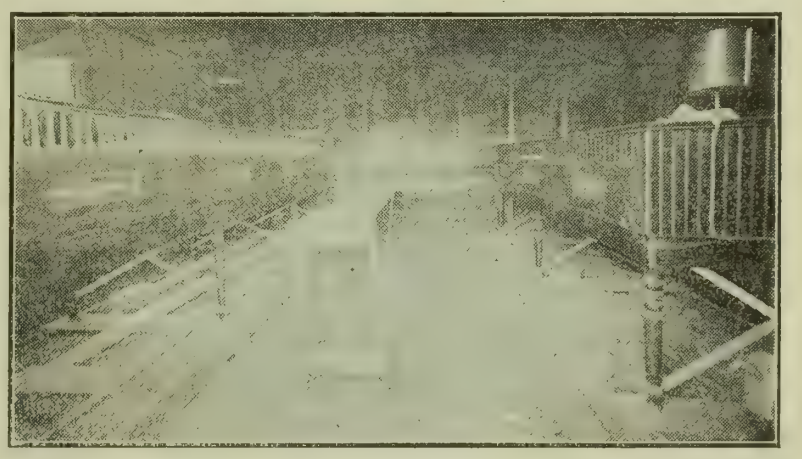
Then he took us to another incubator house (See illustration) containing two incubators holding 2500 eggs (1250 in each machine) that were just beginning to pip and the chicks would be taken out of the incubator on the following day. Mr. Purvine said it would take more than three tons of Coulson's Chick Feed to feed all these chicks during the next few weeks.

C. H. Purvine.

One of the Yards Containing 200 Pullets 10 Weeks Old; Raised on Coulson's Chick Food.

Starting Out to Feed a Few Thousand Hens on C. H. Purvine's Place.

350,000 Chickens in One Square Mile. All the Little White Buildings Are Poultry Houses.



One of the Incubator Houses Showing 2 Incubators Holding 2500 Eggs (1250 in each machine) Hatching Out More Chicks to be Raised on Coulson's Chick Food.

One of the Colonies of About 500 Hens on C. H. Purvine's Place.

All these incubators and also six more large machines in another house were to be filled and at about the middle of March they would bring out 13,000 to 14,000 chicks at one hatch. The reader may doubt the veracity of this statement, but if they will take a trip through this section of the country they will see more chickens than they ever dreamed of before. In the next ten issues of this paper we will show actual photographs of thousands and thousands of chicks that are being raised on Coulson's Chick Feed.

The moral of this story is that if you are going to try to raise any chicks this year, remember that it is COULSON'S CHICK FOOD that is used by the world's largest poultry farms with the greatest success, and it is COULSON'S CHICK FOOD that you want to get for your chicks.

Ask your dealer for Coulson's Chick Food or send for free sample to

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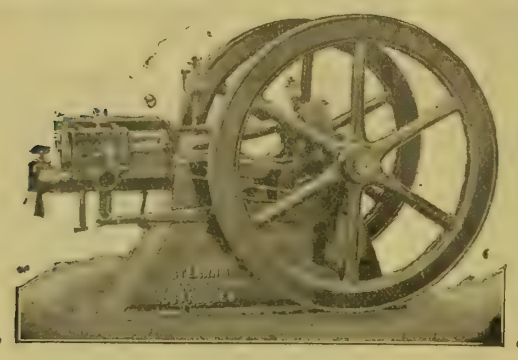

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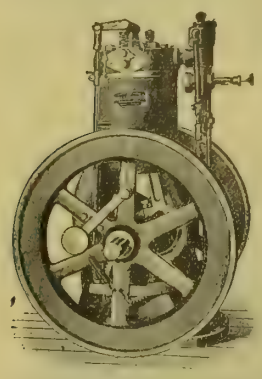

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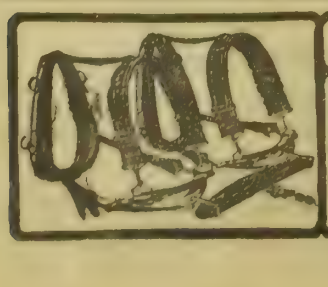

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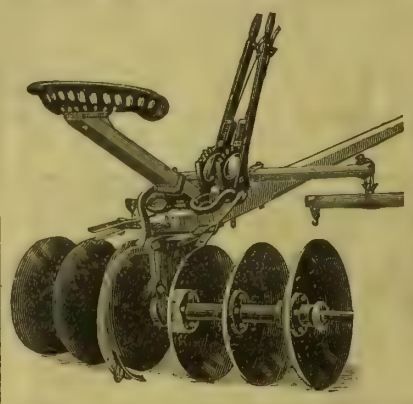

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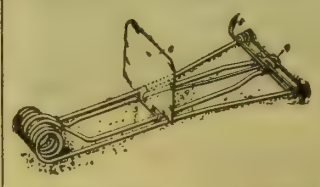

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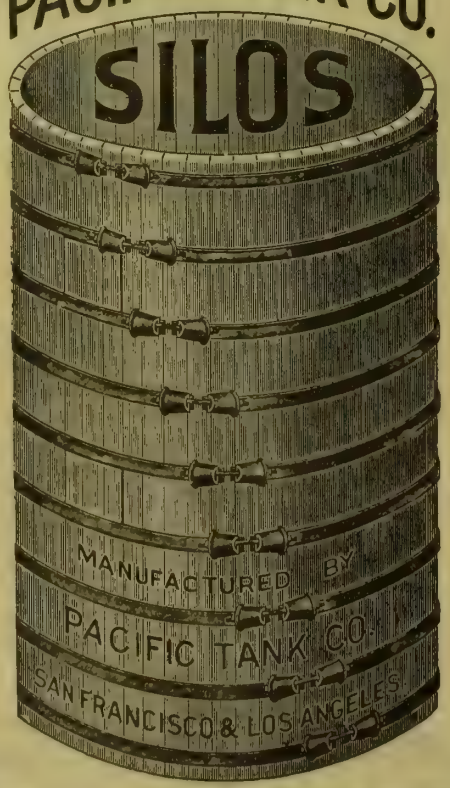

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LOS ANGELES SAN FRANCISCO

MARCH 11, 1904

Stock Exhibit at Central California Fair, Held Annually at Hanford.

IN THIS ISSUE: The Jersey Breeders' Meeting; Asparagus Rust; Peavine Mildew; Apples in Cold Storage; The Cloverdale Citrus Fair; Poultry in Northern California; Incubators; Black Brood and Foul Brood the Same.

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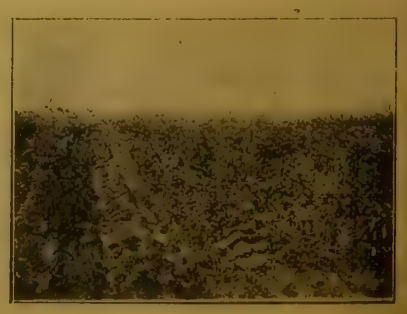

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 11 LOS ANGELES, CAL., FRIDAY, MARCH 11, 1904 Subscription $1 a Year

Annual Meeting of the Jersey Breeders

of Southern California at Buena Park

Of the 5,739,657 farms of the United States, 4,514,210 have dairy cows aggregating 17,139,674 cows two years or older. Added to that may be another million of "town cows," making a grand total of over 18,000,000 milch cows. The eleventh census gives as the average annual production 424 gallons per cow, which would make a grand total of milk production of 7,632,000,000 gallons, or a little better than 100 gallons per year for every man, woman and child of the country.

That's a whole lot. However, the pigs and the calves got their share of the skim milk, at least, and the export accounts for no inconsiderable part of the "balance of trade" which is so agreeable to Americans.

In the production of this wealth, California is not up with the best of the middle west States, however, it is the leader in the western or coast States, and almost up to the average of the whole country. While we have only about two cows to the square mile and some other States have as high as thirty, compared to population we will average well. While we are the second State in size, we are the twenty-first in population and fifteenth in regard to milch cows.

Of the dairy cows of the country only a little more than two per cent are pure bred, while probably more than a half of all are grades or of improved blood.

Of the pure bred registered dairy stock there are in this country 125,000 Jerseys, 75,000 Holsteins, 25,000 Red Polled, 15,000 Guernseys.

From this it will be seen that the little Jersey is in strong force. This is due largely to sterling qualities of this noble little animal and to the fact that an organized effort has been made to promote and bring forward the merits of the Jersey and to encourage higher standards of breeding.

The national organization, which is a strong factor in promoting Jersey interests, is the American Jersey Cattle Club. Affiliating with it are numerous State and smaller organizations. In California there are two "State" organizations. The Northern California Jersey Breeders' Association, of which N. A. Chrisholm of Jacinto is secretary, and the Jersey Breeders' Association of Southern California, which held its meeting at Buena Park this week.

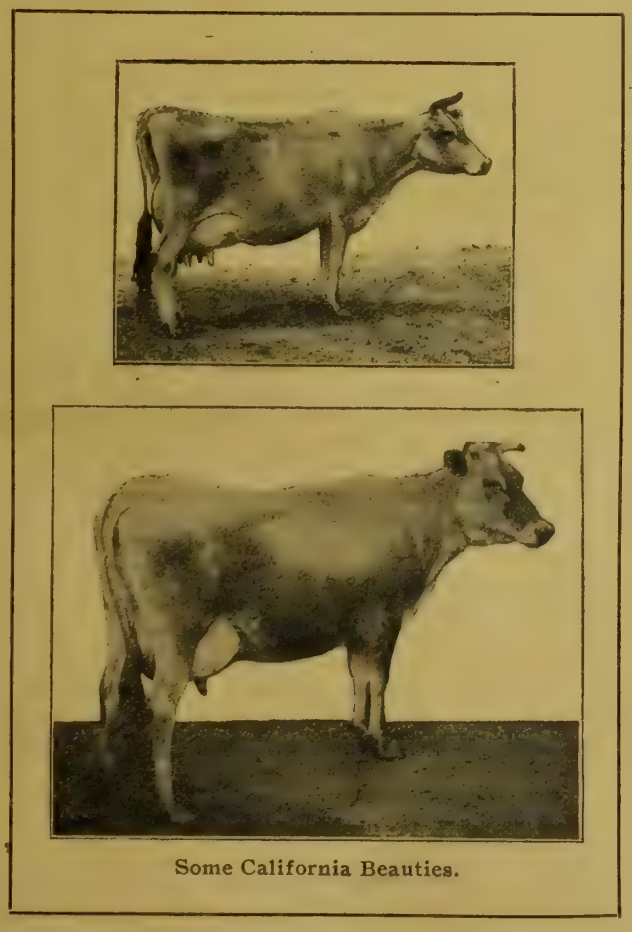
The attendance on Tuesday was very small, not a fourth of the membership being out and scarcely any of the Buena Park people. However, it was business day and no program was sandwiched in to draw the crowd.

There was some general talk regarding the qualities of Jersey milk, in its large per cent of butterfat and its desirableness, especially in the manufacture of condensed milk and cream. A committee was appointed to invite the superintendent of the condensed milk factory to appear before the association and give information as to the qualities of milk rich in butter fat compared to that of lower grade milk.

The by-laws were amended so that honorary members may be admitted. Formerly only owners of registered Jerseys were admitted to membership. This still prevails as to active participation, holding office, voting, etc., but under the amendment, editors of agricultural papers, of agricultural departments in daily papers, and professors of agricultural colleges are eligible to honorary membership without fee.

The treasurer reported $17.90 in treasury. The annual dues hereafter will be $2 instead of $1, as heretofore. The membership now numbers about fifty.

Election of officers resulted as follows: C. W. Leffingwell, Whittier, president; John A. Campbell, Buena Park, vice-president; C. W. Campbell, Los Angeles, secretary; E. M. Wheeler, Santa Ana, treasurer. For directors to serve for the coming two years: Guy H. Miller, Riverside; Geo. Y. Coutts, Orange. The hold-over directors are W. G. Cole, Anaheim; Geo. E. Platt, Los Angeles; and C. S. Burgess, of Riverside.



Some California Beauties.

Guy H. Miller read the following letter form N. A. Chisholm, secretary of the California Live Stock Association:

Mr. Guy H. Miller,

President of the Jersey Breeders' Association of Southern California, Riverside, Cal. Dear sir: One of the objects of this association is to enlarge the usefulness of our State Fair, and as the association of which you are the president is the largest one breed organization in the west, I ask your co-operation to secure a large and meritorious exhibit of your favorite breed.

The present directors of the State Fair are very liberal to cattle. The premiums in the dairy classes call for nearly $1000 to the breed that wins the herd grand sweep-stakes.

I wish to call your attention to their rule, "that when 60 or more animals of one breed are listed with the entry clerk for competition in the open classes a State class will be offered in addition," and this means, double the premium lists. The champion aged animal would then win $120.

Reliable men have informed me that there used to be a good market at the State Fair, but of late the buyers have not come, as there was no competition in the Jersey class. Shorthorns and swine were well represented at the last fair and there was plenty of buyers at good prices.

There is no question but the California fairs are not what they ought to be, and I think the blame should rest to a large extent upon the stockmen. The fair directors can kill a fair but they can't make one; this is the work of the stock breeder and farmer.

There was a special order issued upon the request of Dr. Chas. H. Blemer, State Veterinarian, by the Bureau of Animal Industry allowing cattle from below the federal quarantine line to be exhibited at the State Fair of 1902, and Dr. Blemer has assurance that he can get the same order issued again. The only possible way we can secure legislation to put our fairs in good condition is to get the stockmen interested . But as long as racing is the chief attraction we can not get any more State aid.

Yours truly, N. A. Chisholm, Sec'y.

Mr. Miller spoke favoring the exhibit because of the direct returns in possible sales and in premiums, but far more for the prestige which would follow the winning of premiums which he was positive the Southern Association could make.

C. W. Campbell brought up the matter of butter fat tests and thought the association should encourage it by bearing a half of the cost of such official tests. The National Association bears one-half of the cost when a certain standard is reached. For instance, the cow which will produce 14 pounds of butter in seven days is up to the standard, and a half of the expense borne. Mr. Campbell's point was that the balance be met by the State Association. Mr. Wheeler, of Santa Ana, and others thought the benefits to the owner of such stock were such that each individual should be glad to bear his own expense. Mr. Miller, Mr. Leffingwell and others felt that encouragement should be given to take advantage of these tests and, finally, a compromise of $5 from the treasury to aid in the test was made. The cost of the official seven day test is supposed to be from $25 to $35. Of this the A. J. C. C. will now bear one half and the local association $5, which reduces the cost to owner to a minimum —that is, if the cow comes up to standard. C. S. Burgess, of Riverside, is the official of the club who has charge of these tests.

The members seemed to feel that the thirty-day test is of slightly more value than the seven-day, yet the cost is much greater. The annual test is the better and if of not too great expense is to be highly recommended.

The second day of the Jersey Breeders' Association of Southern California was devoted to the program prepared by the committee having that branch of the proceedings in charge, and to discussions emanating therefrom. The subject of participating in the State Fair of 1904 was discussed at length and by vote of the members left to the judgment of the board of directors. A graceful and thoughtful remembrance of the interest shown by Governor Pardee in assisting to extend the quarantine line so that cattle from Southern California could be shipped north during the dry weather, was made in a motion by Mr. Guy H. Miller, which unanimously carried.

The paper prepared by C. W. Leffingwell and read by Guy H. Miller, on the "Large and Small Dairy Cow," elicited much discussion. The paper will appear next week.

How to advance the interest of the Jersey breeders of Southern California was ably discussed by Prof. E. W. Major, instructor in animal husbandry in the University of California. His address will appear later.

"Starting a Herd," was the topic of a very instructive talk by G. Y. Coutts. He said, "the bull is half the herd. Start with a pure bred bull of excellent qualities and your herd is safe. Patronize herds in your own locality when buying heifers and bulls, for thereby you come nearer knowing the good and bad points of the animals than to buy from distant herds where you can obtain no personal information of the animals or their individual merits. Make excellence rather than number the standard; seek only the pure type.

(Continued on Page (18)

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Friday, March 11, 1904

ITEMS OF INTEREST.

The Easter Harvest.—"Biddy" has come to the relief of an apprehensive public in good time and omelets are in vogue once more. The egg has resumed business at the old stand, in the forefront as an obtainable commodity. A month ago, the purloining of a dozen would have rated as grand larceny. The outlook for Easter is quite promising for chicks and children.

* * *

A Reign of Terror to Grafters.—In the light of the recent findings and sentences of some of the official malefactors and crafty contractors, one is moved to remark that if the ball of investigation keeps rolling on, it may gather up a few more "irregular" atoms that have been figuring as indespensable factors in the postal service. Buster Bristow has developed into a "holy terror" to the grafters in the public service. The momentum of the ball of investigation is too great to stop now. Let it roll on, and on, and on.

* * *

No Cause for Alarm.—Recently there has been a good deal of comment on the development of the citrus fruit industry in Porto Rico and Cuba. Some of those commentators seem apprehensive of the effect of the expansion of the orange and lemon output, lest the market be flooded. Now such views of the outlook for citrus fruits are pessimistic, to say the least. There is no more danger of glutting the market with good oranges than there is of glutting it with good apples. As yet no country has excelled Southern California in production of first-class oranges. There are thousands of people—yes, hundreds of thousands—who do not eat oranges. Some day, everybody will use that delicious fruit almost as freely as they use apples, pears and peaches. Rare, indeed, will be the times when the supply of marketable citrus products will exceed the demand. The chiefest bar to the industry at present is the excessive freight rates; but in time that insufferable obstacle will be surmounted. Don't worry about Porto Rico.

* * *

Strides of Electricity.—We are standing on the threshold of a new age in motive power. Electricity is fast gaining on steam in the operation of modern railroads. The last innovation is a parlor-sleeping buffet car with appointments so comprehensive as to put the Pullman out of business. This modern hotel on wheels is to run between New York, Boston and Washington, and to literally fly across the country at the rate of 60 miles an hour. Twenty of these cars are to be in operation within a month, and so popular is the idea of the electric sleeping car that a line is to be equipped between New York, Chicago and St. Louis within three years. It is simply a matter of a few years when the steam engine will give way to the electric motor in the matter of passenger traffic.

* * *

For Statehood.—The proposal to merge Arizona and New Mexico into one State upon admission into the Union seems to meet with favor on the part of a great many, including the President. The people of New Mexico are disposed to acquiesce in the scheme. The only reason for consolidating the two territories is that the proposed new State will never become densely populated. The physical characteristics are such that they preclude such a possibility. By consolidation, the burdens of statehood will be more easily borne. As to the size of the State, it would not be as large as Texas. The area of the consolidated territories embraces 235,600 square miles. That of Texas is 265,780 miles, an excess of 29,180 miles over Arizona and New Mexico.

While these two territories have their traditions and history, all highly interesting, these matters are not of sufficient force to carry beyond the limitations of sentiment. They have no import in point of precedent for the future. If the consolidation of Vermont, New Hampshire, Massachusetts and Rhode Island could have been effected upon their admission, the people of New England would have been much better off from a material standpoint, though it might have had the effect of cutting out a few statesmen who rose to eminence through the opportunities that statehood affords men.

* * *

Fighting Scale.—The intelligent citrus growers of this State have had so much advice on spraying and fumigation that it is to be supposed they are as well advised on the methods which best subserve their purposes as many who write upon the subject. But it is a good maxim in farming operations of any kind to be vigilant in the use of those remedies which completely destroy the enemies of our fruits, flowers or vegetables. It matters little what may be the method employed to accomplish the result, the end in view is the eradication of the pests which destroy the trees. If spraying is certain death to some scale it ought to be used until that scale is exterminated. Then, if fumigation is the means of cleaning the trees of other injurious insects, which spraying will not reach, it should be resorted to. Both measures have been proven by experience to be useful when properly applied, but the damage wrought by the use of both these specifics has been in the improper application of them. Time and again it has been urged by the advocates of spraying and fumigation that certain iron clad rules must be followed or damage will come to the trees and fruit; not so much from the ingredients themselves as from the misapplication of them to the orchards.

The intelligent observer and operator ought to spray without injury, so the fumigator should apply his ingredients with no evil results. Yet, we constantly learn of inferior work being done and consequent injury being worked to valuable citrus groves. The operator should have experience in his work, no matter what it is, and in that case the trouble which now so frequently comes from the treatment of trees will be done away with. But of one thing are we assured, the scale is ever present and to fight it, year in and year out, is the business of the orchardist.

As soon as vigilance is relaxed, that soon will the demoralization of the citrus trees begin and never cease until the pests have done their work and the usefulness of the orchard is at an end.

* * *

Test Your Cows:—The action of the Jersey Breeders Association in voting funds to encourage butterfat tests of the cows we believe is not only to the advantage of the individual members but to the association, and Jersey interests in general. Admitting that the benefits to the individual grower should impel him to make the tests without the aid of the association, yet he has not as a rule done so. This should at least start the movement, which should become general.

The best advertisement a breed can make for itself is to show by actual and official tests exactly what can be done. There are lots of "fourteen pound" cows in the country. Cows which furnish "all the milk the children could drink, a quart a day to Neighbor Jones, cream for our coffee and still make fourteen pounds of butter in seven days," are plentiful. We have all seen such cows—or the owner of them, rather—and yet the officially tested fourteen pound cow is scarce and worth dollars.

When the Jersey breeders appreciate the full worth of such information there will be greater effort to breed up and show official tests.

The best test of all, however, is the animal, wherein the whole years' production of the cow is more proof than any seven day test can be. Many cows may be wonders for a short period, yet the annual product is only ordinary. Such should be weeded out and the stayer used as the foundation of the herd.

BY J. W. JEFFREY, LOS ANGELES

THEY CONVICT THEMSELVES.

It has been the effort of this department of the Cultivator to set forth some facts concerning the claims and methods of the commission men who have now arrayed themselves against the California Fruit Agency in the eastern markets. Recently an extract was published from a paper read before the National League of Commission merchants by J. S. Crutchfield, of Pittsburg, in which the question was raised as to whether the bona fide commission man had become extinct. We have held that a return to the old method of commission consignments would be fatal, both from the inability of the small dealers to handle fruit in large quantities, and the fact that most of the commission men deal in speculative goods and therefore would always handle their own fruit to the detriment of that sent to them for sale on commission. The following extract from a letter written by a Cleveland commission merchant is significent:

"Under the present system we do not see how a commission man in this city can make anything on California citrus fruits. The California Fruit Agency sells here from five to ten cars of oranges and lemons twice a week. This fruit is offered at auction sales and any one can go and buy, from a basket peddler and push cart man to a commission man who buys from 100 to 1000 boxes at a sale. Now, where is the commission man going to make any money out of this fruit after he buys it at auction when the retailer goes right up to the auction and buys from one to ten boxes at a time which is the rule of this auction, and which we think a very poor one for the commission man.

"In our opinion we think that with a system of f. o. b. California installed it would improve this market a great deal, for then the commission man would have a chance to sell their share of the fruit in these markets."

Of course if the chief end of the fruit grower is to raise fruit for the use of alleged commission men in their speculating business, there is no question as to the viciousness of the grower attempting to handle his own products to a point as near the consumers as possible. In another plausable letter written by a commission man the writer takes a much stronger position, which, being interpreted, means that the more middle men employed in marketing citrus fruits the better it is for the business. Nothing will demonstrate the feeling of shippers toward commission dealing than the following editorial utterance of the American Cultivator:

"Commision men object strongly to the proposed new law in Massachusetts which requires dealers to notify shippers within forty-eight hours concerning the arrival and condition of the goods, and after the sale to notify at once, giving date, price and the address of the buyer. Certain dealers pronounce the bill "absurd and impracticable," on the ground that the dealer would lose some of his trade if he disclosed his list of customers, who would perhaps order direct from shippers.

On the other hand, something of the kind seems to be greatly needed to protect shippers against careless or dishonest sales and false statements of the condition of the goods. A prompt report would enable the shipper to investigate for himself. A way out of the difficulty would be to require dates and addresses to be furnished to an official committee which could investigate sales, etc., upon request. There are a few commission men whose behavior, especially towards small or occasional shippers, is a disgrace to the trade and a constant check upon the public confidence. Unless something is done to protect shippers, the business may eventually be handled directly by the producers on the co-operative plan."

A GOOD FEED SQUASH.

Editor: I am thinking of planting some pumpkins and, not having the desirable kind of seeds I wish, and also not knowing what kind I do want, I come to you for assistance. I want a kind that makes good cow and hog feed, and grows to attain from 70 to a hundred pounds. I presume the above described species will also make good pies, will it not? Please state through the columns of your paper if you can, what the name of the species is and where I can obtain same.—A. B. G., Ukiah, Cal.

The Mammoth Chile or the New Mammoth Whale, would probably answer our correspondent's requirements, the first named one being the best. This squash, under favorable conditions, grows to be very large. It is a good bearer, and can be used for pies. It is not to be recommended for this use, however, in comparison with the Hubbard, but for an all round squash, for both stock and table purposes will surpass the Hubbard. Seed can be procured from any seed house on the coast.—John Isaac.

Paul Morton, of the Santa Fe railroad, and W. W. Bowers, collector of the Port of San Diego, are to have a debate shortly over alleged violations of certain contracts entered into between the people of San Diego and the Southern California railroad, on transportation matters.

The Citrus Fruit Situation

By A. H. Naftzger, President California Fruit Agency

To the Cultivator: Complying with your request for a brief statement of the orange situation as I see it, I have to say that I cannot follow the panicky views that seem to be current at this time. If we may believe all of the statements that are published and all of the current rumors that drift about, we should be forced to the conclusion that the citrus fruit industry of California is on its last legs. It cannot be denied that this season so far, has been an extremely unsatisfactory one to orange growers, and I cannot bring myself to criticize them for feeling a good deal discouraged and very much dissatisfied with the situation. Thousands of our growers have their fortunes in their groves and are entirely dependent upon them for a living. The man who has a family to support and perhaps is endeavoring to educate his children cannot look very complacently upon a disastrous season when his orange orchard is his only source of revenue. On the other hand it would seem to me the part of wisdom for the orange grower to try to look into the situation calmly and dispassionately and not further increase his troubles by creating panicky conditions and putting the industry into disrepute. It goes without saying that if the citrus fruit growers of California should unite in preaching calamity, the business would be quickly discredited and values of orange property would depreciate enormously. Holders of securities on this class of property would become restless; foreclosures would probably follow and the situation would be much worse.

What are the facts? First: That we have a very large, and from year to year an increasingly large quantity of oranges in California.

Second: That Florida, which has practically become our only competitor under existing tariffs, has also a rapidly increasing quantity of oranges, her crop this year approximating 2,000,000 of boxes, so that between us the markets of the country are called upon to take nearly double the amount of oranges that was ever before offered. In other words, before the great Florida freeze, her shipments had approximated 5,000,000 boxes per annum. Ours were then less than 2,000,000 boxes, making a total of nearly 7,000,000. This year, the California and Florida product together will aggregate probably nearly 13,000,000 of boxes. Over against this, however, is the fact that the financial condition of the country generally is very much better than it was in the early '90s, and there are many more consumers of oranges than ever before. During the same period, however, other fruits have vastly increased in quantity all over the country and these are to some extent competitors with oranges. For some reason not yet determined, we are having greater difficulty in getting our oranges to market in sound condition than in earlier years. Whether this is due to the methods of fertilization or other treatment, remains yet to be seen. The fact is a serious one. The growers have some things to learn upon this point.

Coming down to the season's operations, for nearly two months immediately following Christmas, the whole country from the Rocky mountains to the Atlantic seaboard was almost constantly in an Arctic condition of temperature. The longest extremely cold period for many years prevailed almost everywhere. As for instance, in St. Paul the mercury never rose above zero for thirty-five days, and as far south as the Ohio river, and from mountains to seaboard the temperature was below zero many times, making it practically impossible to handle any fruit or other perishable products. We experienced therefore in our attempt to market oranges, an almost complete deadlock. A great deal of fruit was frozen hard in the cars in spite of anything we could possibly do. I cannot see how any blame can attach to any parties whatsoever for this condition, which involved an enormous loss to our orange growers. Nevertheless, the shipments up to this time have not been a total loss by any kind of means. The California Fruit Agency has paid over to its various members up to this time on the season's crop nearly two millions of dollars, with probably another million in transmission and to be realized upon the shipments out and unsold. It is true that this is not all net returns to the growers, because the packing charges must come out of it, which is a very large item. Nevertheless, it still leaves a large sum of money for the growers themselves. Moreover, it should be borne in mind that only about one-third of the crop has been shipped, and that we have much fruit of fine quality. No one can safely forecast what the markets will do, but we have every reason to expect a decided improvement from day to day. It will take the eastern markets a little time to recover from the accumulation of fruit that ought to have been distributed in January and February and could not be distributed because of the extreme low temperature, but when this is out of the way, we think the country will take a large quantity of fruit at fair prices.

No one should imagine that the citrus fruit business has reached its end. Every industry, especially of an agricultural nature, is subject to its fluctuations and temporary backsets. The grain business of the West and Northwest has at times been paralyzed, and we hear of overproduction, and the impossibility of recovery, etc., but it did recover and was scarcely ever more prosperous than it is today. The same thing is true of the stock business of the western ranches, and the cotton business of the South. It is true that the citrus fruit business is to some extent in a class by itself, and cannot be absolutely measured by the rules that apply to other agricultural or horticultural pursuits—but it is here to stay, and will be a continued source of revenue and profit for many years to come. In order to keep it so, everything possible must be done to increase the distribution—economize in marketing as well as in production.

Another indispensible thing, in my judgment, is a reduction of the freight tariff, which is too high. Upon this question I have spoken and written so many times and in so many places during the last five or six years that anything I might say now is a mere repetition. There was a time when the growers of oranges in California could afford to pay the freight rates, because of the prices obtained for the goods in the markets, but with the increase of the product, prices have tended steadily downward, and we have reached the point when the business cannot successfully carry the present freight rates. If it be true that the railroads cannot afford to carry the fruit for any less money than the present rate, then I should revise my statements above and say that the industry cannot continue to be prosperous because the fruit grower would, in that case, be compelled to discontinue business, and the railroads would lose the haul. Nothing, however, that has ever been said on the subject, convinces me that the railroads cannot afford to carry the fruit for much less than the present charges. I believe they can, and I believe they will.

Summing it all up, I should say that it is not the time for getting feverish and panic stricken. Fruit growers should address themselves calmly and conservatively to the correction of any evils that exist, but not to the discrediting or impairment of the business by wrong theories or conclusions.

MEXICO OBJECTS TO HAVING HER WORMY ORANGES KEPT OUT.

Correspondence has been going on between the Mexican government and our own in regard to the embargo upon Mexican oranges in this State. The matter was finally referred to the Secretary of Agriculture, Wilson, who decided that inasmuch as it was directly in the lines of police protection, and outside of federal jurisdiction, the general government could not interfere in the matter. It was then refered to Governor Pardee and is now being considered by him. It seems that the Mexicans have got the idea that California orange growers are jealous of the superiority of their fruit and that the existing embargo is without cause. In this, of course, every Californian knows they are mistaken, for we are not afraid to place our oranges beside those grown anywhere in the world, but we are afraid of the terrible orange maggot which is found all over Mexico and which, were it once introduced into California, would soon remove all danger of overproduction of oranges, at least of marketable ones in our State. This pest belongs to the same class as the terrible fruit fly which has destroyed the fruit industry of a large part of Australia and for which George Compere is now searching for a parasite. Once introduced it would be infinitely worse for our orange growers than is the codling moth for the apple orchardists, and as an ounce of prevention is worth a pound of cure, the embargo placed upon the entry of Mexican oranges into this State is one of the best things that the Horticultural Commission has ever done, and it is not likely to be undone by any action of Governor Pardee.—John Isaac.

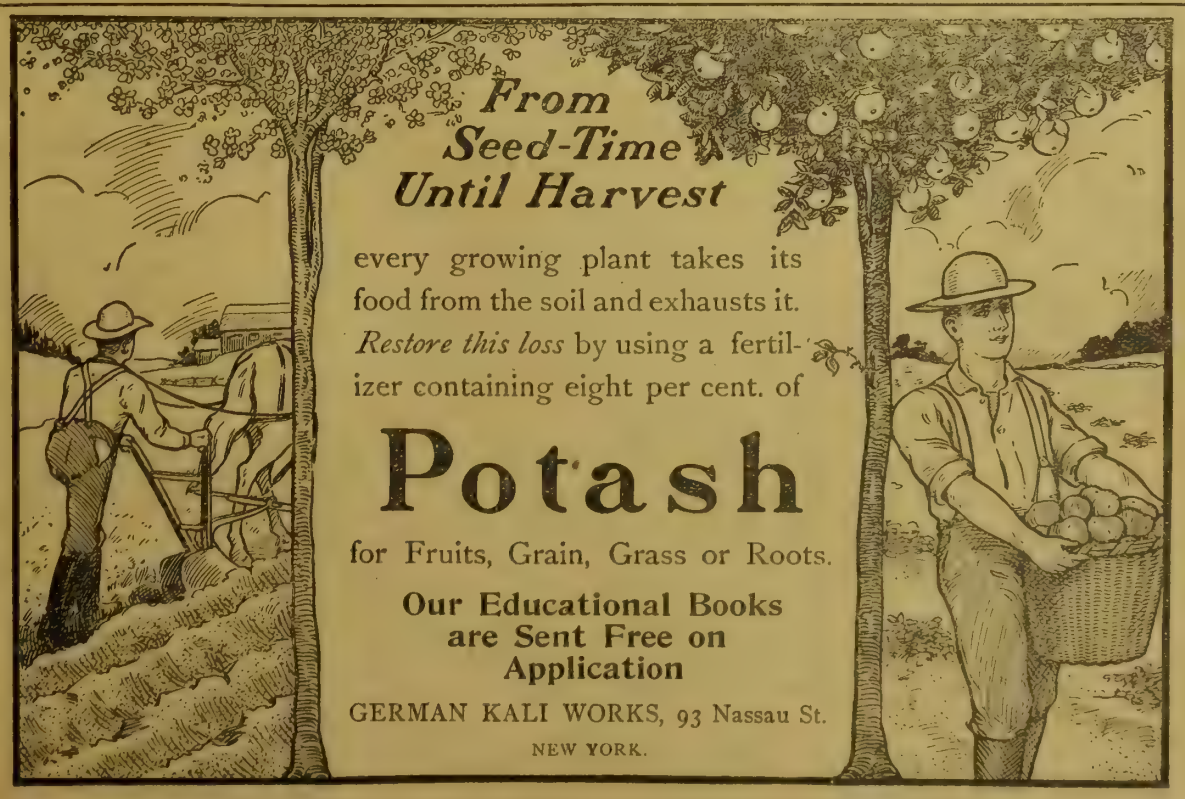
SEARCHING FOR THE FRUIT FLY PARASITE.

George Compere, an old time resident of Los Angeles, now entomologist of the West Australian government, was recently in San Francisco on his way to Brazil, where he is going to search for an efficient parasite of the fruit fly, which has been so terribly destructive in Australia, and which, from information he has received, he believes originated in South America. The ravages of the fruit fly are well known to all readers of this paper, and Mr. Compere states that they are still so bad that it is almost impossible to grow fruit in the section of Australia which he represents on account of the pest. No fruit is immune, and so rapid has been the spread and so destructive the work of this pest that fruit growing in many sections is a thing of the past. If Mr. Compere succeeds in his mission and discovers the natural home of this fly and the enemy which preys upon and keeps it in check, he will have done a work that will entitle him to the thanks, not alone of his own government, but of all the world, for all fruit growing sections are threatened with this pest in time if some efficient check is not discovered. During one of his trips in Europe Mr. Compere claims that he found the parasite which keeps the codling moth below the danger line in that part of the world. That there is some agenecy which does this in Europe cannot be questioned, for the codling moth is one of the oldest of our described insects, and it has never been a serious pest in England or on the continent, and if Mr. Compere can discover, or has discovered as he says, this parasite, and will introduce it in America, he will do a work greater in its permanent results than that of any entomologist of his age.—John Isaac.

The following weather conditions are reported by the Weather Bureau for the past week:

From San Francisco Bay northward the seasonal precipitation is now considerably above normal. At Peachland the observer reports 40.86 inches up to March 1st. In all sections except the overflowed lands grain and grass are in excellent condition and have made rapid growth during the past week. The outlook is good for large crops in nearly all places that were not flooded, and partial crops may be raised on those lands. Farm work is progressing slowly in the northern sections, but good progress is being made in all other sections. Green feed is plentiful in nearly all places, and cattle are improving. The planting of summer gardens is in progress. In Southern California the rainfall of the preceding week was very beneficial and the soil is in very good condition.

Deciduous fruit trees are rapidly coming into bloom in nearly all sections, and the present outlook is good for excellent crops. The acreage in fruit trees and grapes has been considerably increased. It is reported that citrus fruits in Southern California were never in better condition than at present, but owing to marked shortage of cars, picking may be temporarily discontinued.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California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

THE CLOVERDALE CITRUS EXHIBIT.

I attended the late citrus fair at Cloverdale and was surprised at the size of the exhibit, the artistic merit of the display and the excellence of the fruit. I had long been under the impression that these fairs were mere play affairs at which there was a small amount of inferior fruit on exhibition, but, even knowing the citrus possibilities of the northern counties as well as I did, I did not expect to find either as large an exhibit or as excellent fruit as was shown on this occasion in a section so far north and so close to the ocean as Cloverdale is. The fruit on exhibition was of good size, fine texture, free from rag, fine grained and excellent flavor. There was a good display of lemons as well as of oranges, and these were of uniform size and had been carefully selected and well cured. Besides these there were exhibitions of citrons, olives, olive oil, walnuts, almonds, apples, and other fruits, showing the varied horticultural products of this section. The pavilion in which the exhibition was held was built expressly for these shows by the people of Cloverdale and is a monument to their enterprise. It was handsomely decorated with evergreens, brilliantly lighted with electricity, and altogether was one of the most attractive citrus fairs I have ever attended, although, of course, falling far below, in points of size and variety of fruits displayed, those given in Southern California. I afterward drove around the country around Cloverdale in which, after seeing the citrus exhibit, I expected to find some extensive orange and lemon groves, and was equally surprised to find nothing that could really be called an orange grove, the largest single tract being only 12 acre in extent, and the whole collection on exhibition had been gathered from small patches, ranging from a few trees to an acre or so scattered over the whole valley. In answer to the question, "Since you grow such good oranges, why don't you grow more?" The answer was that growing grapes for wine paid so much better, that people would not give up their vineyards for orange groves. Vines come into bearing in a couple of years after planting and the growers soon get profitable returns, and, when producing, they pay better than oranges. There is no danger, therefore, of the Cloverdale section ever coming into the market as an active competitor with citrus fruit, and her annual citrus fairs will remain for advertising purposes to show what that section is capable of. Cloverdale is certainly one of the garden spots of California, surrounded by low mountains, protected from the fogs of the coast and the winds of the valleys, its temperature is uniform, free from extremes of heat and cold, and with a soil of unlimited fertility, it can produce anything that can be grown in the State. As an evidence of the wide-awakeness and up-to-dateness of the people, I would add that I found the Cultivator very generally circulated and widely read there.

* * *

RAINS INTERFERE WITH ORCHARD WORK.

The heavy and almost continuous rains of February all over the northern counties have very seriously interfered with orchard work and in many sections pruning is behind and spraying has not commenced. Orchardists are taking every advantage of a lull in the storm to prosecute their work, but unless there is a hold-up in the downpour, a good many orchards will be too far advanced for any winter spraying.

* * *

DEMAND FOR PICKLED OLIVES.

Reports from the olive pickling works in Yuba, Sutter, Butte, San Joaquin and other counties, in which the olive is being pickled for export, are to the effect that the demand for choice pickled olives is greater this season than ever before known, so great in fact, that there will be some trouble in filling all the orders. This is an encouraging sign and indicates that the American taste is being cultivated to an appreciation of this, one of our choicest table relishes. It would seem from this that there is yet room for extension in the direction of olive growing and, of all varieties, perhaps, the Mission is the best. This is, without doubt, the best all around olive which we have. It is good for either pickles or oil. It is the most hardy of all our olives, less subject to disease than any other, more resistant to pests and the most certain bearer. The greatest enemy we have ever had for the olive has been the black scale, and this, in some sections, especially in the coast counties, has been so bad in some instances as to render olive growing impractical. The introduction and spread of the Scutellista cyanea has overcome this difficulty and today it may be claimed that the Mission has no pests or disease detrimental to it. There have been very many failures made in olive growing, owing to the fact that it has become almost a common belief that the olive thrives best on ill treatment, and that it will grow and pay on soil good for nothing else. This is not true. No tree responds more quickly to good treatment than the olive. It will drag along and bear some inferior fruit under conditions which other trees would die under, but if profit from an olive tree is desired, then it has got to be carefully cultivated, given suitable soil and plenty of it, and treated in all respects with the same care we should bestow upon any other orchard tree.

* * *

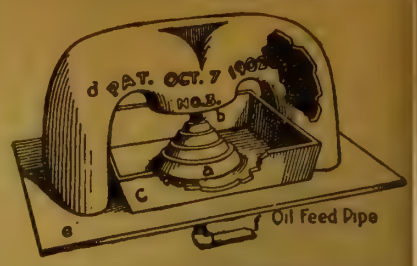
AN IMPROVED FRUIT PACKAGE.

An Oklahoma inventor has got up a new style of fruit crate which, from its description and accompanying illustrations, would seem to be an improvement on the present style of boxes, especially for shipping to long distances. The new crate is hexagonal in shape, the shape of the cells in a bee comb, and the one most economical of space known. Cleats around the top and bottom prevent the crates from being packed close together and leave ample space for the free circulation of air, while the crate itself is so arranged that there is ample room for a free circulation of air among the fruit it contains.

* * *

SPREAD OF ASPARAGUS RUST.

Around San Francisco Bay and running up the Sacramento river, asparagus growing is as important as is celery culture in the peat lands of Orange county. In many places asparagus beds, hundreds of acres in extent, are growing and hundreds of thousands of dollars have been invested in these farms and in canneries devoted to putting up asparagus for the eastern market. It will readily be seen that any disease threatening this important industry in those settlements where it exists, will be viewed with more than ordinary alarm. For many years past a disease commonly known as asparagus rust has prevailed over a great part of the east, and in some sections asparagus growing has had to be abandoned on account of its ravages. It was hoped that California was so remote from the diseased sections that she would escape contagion, and a continually widening market be supplied for our cleaner product. But such was not to be. Some two years ago Mr. Craw discovered and reported to the State Board of Horticulture that this dreaded disease had found a foothold in some of our larger asparagus fields and an attempt was at once made to prevent its further spread, but it was too late; the pest had obtained a foothold and has since spread until nearly all the principal sections are affected. So serious was this disease that, last year, the principal asparagus growers made up a purse of $2500 to be expended by the State University in the hope that some remedy or preventive means might be found which would save their industry from the threatened ruin. Prof. Ralph E. Smith, who was detailed to study up the disease, has made his report upon it and this has lately been published by the University. A perusal of the bulletin reveals little new in regard to the disease and offers little in the way of effective treatment. It, however, contains much valuable information in relation to it and offers some good suggestions in regard to its treatment. The conclusion forced upon us, from reading the bulletin, is that we have got to face the fact that the most serious of asparagus diseases is with us, and with us to stay, so far as any known relief at present is concerned. It is devoutly to be hoped, however, that future experiments may result better than those recorded here.



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A WORD ABOUT FIGS: We sell the genuine Fig of Commerce. Our cuttings came from bearing trees in the orchard of the Stanford estate, near Vina, and the fruit from these trees, after being examined by the best fig experts of the State, is pronounced the genuine Fig of Commerce, the Lob Ingir. Dr. Eisen says this and no other variety should be known as Smyrna, if the name Smyrna is to be used at all. We can refer prospective purchasers to the Supt. of the Stanford ranch, at Vina, for a verification of this statement. As to my own reliability, I can refer parties to any of the leading merchants of Corning, and to the Bank of Tehama County, and the Herbert Kraft Co. Bank, at Red Bluff, Cal. No one in the Unites States originated the Commercial Smyrna Fig. It is a variety which has been grown in Asia Minor for thousands of years. Parties may originate a fancy name and copyright it, but this does not make the fig they sell under a copyrighted name, any better. The fig we sell does not require a high sounding name to make it appear as the only commercial fig. All that we claim for our fig is that it is known as the Lob Ingir, the cuttings of which came originally from the famous orchards of Smyrna, Asia Minor, and is of the variety so largely imported into the United States in the dried state. We are not charging you for a private copyrighted name, but we sell you good 2 to 4 foot trees of the Genuine Smyrna Fig of Commerce at $150 per M. To fully demonstrate the methods used by some nurserymen in giving old varieties of fruit trees a new name and thereby make it appear that they have the only genuine article, we will say, how ridiculous it would be if we copyrighted a name like "Muro" and sold the old variety of Muir Peach under this name. Do not be misled by copyrighted names. We have the genuine Smyrna Fig of Commerce and if you want to confirm our statement, we do not hesitate to refer you to the above named parties. We can supply prospective planters a small sample of our dried figs for comparison with the so-called copyrighted figs. We also have for sale all varieties of Capri Fig trees, and all of our customers will be supplied at the proper time with a colony of Fig Wasps, free of cost. Address

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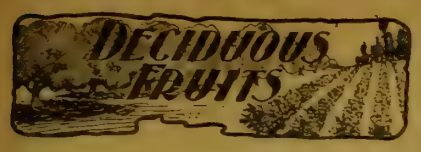

BY J. W. MILLS, ONTARIO, CAL.

ASPARAGUS RUST.

Editor Cultivator: Will you kindly inform me how to prepare asparagus seed so as to kill the rust germs? I wish to plant asparagus seed and fear it may have rust germs on it. I have seen wheat and barley soaked in bluestone water, but do not know the quantity to use. How can bisulphide be used? Is it better than bluestone?—W. S. C., Highland.

Soaking the asparagus seed in bluestone will undoubtedly kill the rust germs. We would suggest wetting the berries in the solution and rolling them between the hands to remove the pulp and at the same time destroy with the bluestone solution what spores or mycelium there might be in it. Wash the seed from the pulp in the solution and allow them to remain under the liquid for ten or fifteen minutes. The seeds should be violently stirred so as to remove the bubbles of air that stick so persistently to them. Wherever the air adheres to the seeds the bluestone does not come in contact with them and there the spores, if they be there, are not killed. Make the solution one pound of bluestone to 10 gallons of water. After the seeds are removed from the bluestone water, wash them in pure water and plant them immediately. Cover the plants with burlap as soon as they appear, placing the cover high enough to be out of reach of the tops. Any kind of covering that will keep the dew off will answer the purpose. This has been demonstrated by Prof. R. E. Smith to prevent the development of the rust. If the plants thus pass through the first year of their existence without the development of rust, it will surely be safe to transport them to sections where the rust does not exist. Before planting them it might be well to dip them in a solution of bluestone and water made half the strength of that described above. Do not keep them in the solution any longer than is necessary to wet the entire plant, then rinse in clear water and plant at once and irrigate thoroughly. Bisulphide is not as good as bluestone for this disease.

* * *

PEAVINE MILDEW.

Editor Cultivator: Can you tell me through your paper what I can do to prevent my garden peas from mildewing? The mildew affects the vine as well as the peas but does not appear to do much damage except to the appearance. Will sulphur do them any good and will it harm them in any way?—C. P., Sierra Madre.

This disease does not usually affect the pea vines until warm weather comes on. Sulphuring the vines will help the vines and will do them no harm. The sulphur should be applied long before the mildew makes its appearance or it will do no good. There is nothing that will relieve the plant after the blue growth appears, as by this time the vegetative or growing part of the fungus is already growing all through the stalks and leaves and cannot be reached without actually tearing the tissue apart. The blue, dusty appearance of the vines and leaves is caused by the fruit or spores of the fungus which has about completed its growth and has done all the damage. It is a mistake to think that this mildew does not damage the vines or the peas. It stunts the vines and peas and gives them a poor flavor. The peas are so disfigured that they will never bring the best price.

There may be some failures by using the sulphur because it is necessary to have very warm weather to volatilize the sulphurous acid and this is what does the work. The grape mildews seem to start later than the pea vine mildew. One spraying with Bordeaux mixture, followed up with the sulphur after a week or two, ought to keep off the disease.

* * *

E PLURIBUS UNUM.

Editor Cultivator: Please give names of the best of the following varieties of fruit for home use? 24 apples, 4 pears, 4 plums, 4 apricots, 4 peaches.

Where can I get sugar maples and elm trees and will they do well in Orange county? Is there any kind of current and gooseberry that will do well here? What kind if gums are best for piling?—M. C. Cole, Santa Ana.

We would recommend for the home orchard, confining the limit to your figures, as follows: Apples: Early Harvest, Red Astrachan, Skinner's Seedling, W. W. Pearmain, R. I. Greening, Jonathan, Mo. Pippin and Stump. This makes a complete list for the home orchard and if you wish to use up more space, plant two trees of each variety. For pears, we would have Bartlett, Winter Bartlett, Lawson and St. Andre. Plums: Tragedy, Cherry plum, Ontario, Satsuma. Apricots: Newcastle, Hemskirk, Royal and Tilton. Peach: Imperial, Early Crawford, Pansy Pabor and Foster.

You may get sugar maples, elm trees from any of the large nurserymen who advertise in this paper. We do not know if these trees will thrive in Orange county. There is no way of telling until a trial is made. If you can trace up some of these trees that may be growing around or in Santa Ana, you would have the best possible evidence now at hand. Currants and gooseberries do not thrive with us and we should judge that they would do better in your locality. These fruits need a cool, moist climate and it can hardly be hoped that they will do as well with you as they do in the bay region of San Francisco, where the climate suits them to perfection.

The Eucalyptus Globulus is used more exclusively than any other gum tree on this coast for piling. The principal reason may be that it is the most numerous and gives good satisfaction, though there may be other varieties that surpass it. Eucalyptus rostrata is one of the most valuable timber trees, and will, perhaps, prove more durable than Globulus when used for piles. Rostrata does not grow as fast as the latter and for that reason has not been planted very extensively.

* * *

HOME ORCHAD AGAIN.

Editor Cultivator: Will you kindly give a list of the following fruits: Apple, peach, pear, plum and fig, that you would recommend to plant for home use along the coast in Southern California.—A., Montalvo.

The above list is a good one, with perhaps the addition of the following peaches: Amsden June, Wiggins, Lewkin's Honey and Salway. Baldwin's Late is a good peach, but a shy bearer. We doubt if there is any fig that would do well at Montalvo, it being so near the coast. Our best white fig is White Datatto, but we doubt if it would mature with you.

* * *

OLIVES.

Editor Cultivator: I am sending you olives, all off the same tree; will you please tell me what variety they are? —Subscriber.

The olives you send are without doubt Cayon.

* * *

APPLES IN COLD STORAGE.

A great deal of interest is being manifested in apple culture in certain parts of California and the amount that will be shipped out will increase yearly. The storage problem is an important one and it is fortunate that the department of Agriculture at Washington has made exhaustive studies in this work. Our growers are just far enough along to need the information obtained. Mr. G. Harold Powell, who is now here for the purpose of investigating along the same line in citrus fruits, with his assistant, did this work, which is now published as Bulletin No. 48 of the Bureau of Plant Industry. It should be in the hands of every apple grower who expects to store his fruit for the winter trade or expects to ship it away. While our local conditions are entirely different from those where the investigations were carried on, the principles that were worked out are fundamental and will apply anywhere. The investigations were carried on in ten different States, reaching from Kansas to Maine. One hundred and eighty varieties of apples were used in the experiments. Different kinds of culture, packages, wrappings, time of picking as related to maturity, different ages of trees from which the fruit was picked and different methods of treatment before and after cold storage were part of the plan of work.

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Conducted by PROF. A. J. COOK, Claremont, Cal

[In Prof. Cook's article last week he was made to refer to Mr. Pease, of San Bernardino county, as manager of the famous Arlington Heights estate. This was an error for which Prof. Cook was not responsible. Mr. James Mills is manager of that estate.—Editor.]

THE CLUBS.

If any one has doubts about the utility of the club movement, and questions in the least their usefulness, let him take time to attend one of the meetings of the San Dimas Heights Farmers' Club and he will be speediiy converted to the fact of their exceeding value. It was my pleasure to meet with the club at its last meeting. The usual number of considerable over 100 greeted the speakers, and were alive to every word that was uttered. How easy it is to enlist all in any enterprise that promises good to the community, where there is such a club. We met in a fine hall owned by the club that will seat five hundred at least. A goodly number of comfortable chairs, a fine piano, and a nucleus of a good library already are theirs. San Dimas is one of our best and most desirable orchard sections, and this alone would attract would-be purchasers, but the fact of this most flourishing club has had, I am sure, not a little to do in giving to this section the proud reputation that it bears. We know that the small grower, especially of lemons, is at ill-advantage with the large growers who have hundreds of acres and ship hundreds of car loads of fruit. How can this misfortune be met? Plainly by co-operating and combining the small growers, so that they can handle a great output. But how can we get the general grower to exercise the great caution that must be observed to create a uniform pack, and send only the best fruit to market? Plainly, here comes in the best work of the club. Here shines out the example of San Dimas' victory. She has now a lemon house that vies with the Limoneria and Arlington in the excellence of its pack, and the fine condition of the fruit as it goes to the eastern markets. And she is not done yet in working for the first place. Her manager knows full well the excessive care necessary in picking and handling the fruit, and with the club and its large attendance at his call, he can impress his ideas upon others, so that they will bear quick and ample fruit. I am glad to know of the many splendid clubs, and the magnificent work that they are doing; and I shall not rest till every neighborhood has one of these most beneficent organizations.

* * *

CLUB PROGRAMS.

Mrs. E. McL. is one of the active members of the live Carpinteria Club. She sends a program of their last meeting and suggests that the Cultivator publish it. I like the idea, and like her urgent request that more of the club programs and proceedings be published. She says that nothing would be more interesting and helpful.

Apropos to this suggestion, I wish to give the program of our club at the last two sessions: At the February meeting we had a talk by Mr. Geo. Dunlop of Hollywood, on "Direct Legislation," and an experience meeting on "Scale Insects and Red Mites, and the Diltillate Spray." At the last meeting we had "Direct Primaries," by Hon. E. M. Camp, of Sierra Madre, and "Ethics in our Schools," by Dr. G. J. Roger. I know some object to two of these subjects, as they are "political." Not so our club. It has worked too long for that. Indeed a vote of thanks was passed to the program makers for bringing in these themes. While this may be politics, it is not partisan politics, and as the success of these measures would be fatal to the machine, the boss and the lobby, we are likely to hear too little of them in the regular campaigns. To give information on great themes that vitally concern the great body politic is the proud work of our farmers' clubs.

* * *

POTATO SCAB.

Mr. Miller, Pomona, asks me to give the latest regarding Potato scab. Up to a very late date, not much has been known as to the cause or cure of this disfigurement of our great American "Tubers." Some have thought that insects, or "Millipeds," were the cause, others that too much nitrogen in the soil occasioned the scab, while others have suggested a fungoid or bacterial origin to the disease. Of late two or our stations have shown that there are two forms of the disease, one deep, caused by fungous attack, and the other more superficial, and caused by bacteria. Prof. Thaxter, of Yale, is the discoverer of the fungus. Prof. Thaxter has not only demonstrated the presence of the fungus, but has shown that it can be inoculated at will. As we now know the cause we may hope to soon have a cure.

FOUL BROOD AND BLACK BROOD.

We have known for some time that these two diseases were amenable to the same treatment, but have supposed that they were caused by two different bacteria. We now learn from the Pathological Division of the Agricultural Department at Washington, that the same bacillus causes the black brood that produces foul brood. The experts reported to the same effect last year, but their decision was doubted, so that they have gone over the same ground this past season, and have examined many samples, and now assert positively that the same specific germ causes both diseases. Such work by the department ought to be very much appreciated, and I am sure it is. It is well known that foul brood in California takes on quite different forms. We are all the more sure now that the same bacillus causes both forms, and now we must add black brood as a third form of the mischief that is caused by the bacillus of foul brood.

* * *

HONEY PROSPECT.

Bee keepers are very much discouraged over the honey prospect for the coming season. It does look very dark indeed now for the bee keepers. Yet I do not think that we must give up the crop yet. If we shold have frequent rains from this time, I think we might hope for a considerable crop, if the season from this on is favorable. It used to be thought that we must have at least 15 inches of rain to insure a crop. We now know that much less is required in case it comes so as to do the most good. If we could have timely rains through this month and April, I believe we might hope for a good yield of honey yet.

* * *

INSECT FRIENDS.

Dr. B., of Lordsburg, asks how we may know whether it is the Scutellista or lady bird beetles like the Rizobius, that are destroying the black scale in our orchards? The easiest way is to note whether there is a small hole in the back of the scale or not. The larva of the Chalcid or Scutellista is a white, footless maggot-like larva, while the larva of the Rhizobius is a long, greenish grub with three pairs of legs just back of the head. Both are often found under the scale—the Scutellista always—but the larva of the Rhizobius is active and moves freely about, while the larva of the Scutellista is almost motionless. The pupa of the Lady Bird is usually found outside the scale, and is sub-spherical, while the larva of the Chalcid is of the usual elongated form, and is always found under the scale. Of course the mature insects will be very different. The black Rhizobius is the usual form of the lady birds, nearly a hemisphere, and is more ready to walk than to fly, when disturbed; while the Chalcid is a small black fly, ready to take wing and fly off at the least scare. The lady bird lays its cluster of eggs on the twigs or leaves near the scale insects, while the Chalcid fly lays the eggs singly in the scale and, as they hatch, the larva destroys the scale. So one of the Chalcids destroys one scale, while one Rhizobius may eat up several scale insects. Each fly, however, lays many eggs and so she is the cause of the taking off of numerous scales.

* * *

PLOWING OR CULTIVATING, WHICH?

I think most of our orchardists plow their orchards at least once a year. I think most of the best ones plow twice. The most popular plan seems to be to plow early—after the first rain—and again in late winter. If a cover crop is grown, it seems best to plow as it is sown, in the early days of September, and again when it is plowed under, not later than February. I presume that good results will be gained if the earth is stirred deeply, whether it be done by cultivator or by plow. Yet I can but believe that it is wisest to turn up the deeper soil that it may get the benefit of the air. In case the cover crop is used, and it will be more and more, then one plowing is absolutely necessary. Mr. Mills of the Arlington Heights orchard, told me that he greatly prized the disc plow. It did seem to be doing splendid work as I saw it turning under the great growth of peas.

* * *

CHANGE IN APRIL INSTITUTES.

There is a slight change in the dates of the April institutes, as follows: Anaheim, March 31st and April 1st; Monrovia, April 1st and 2nd; Elsinore, April 4th and 5th; Hemet, April 6th and 7th; Cucamonga, April 8th and 9th; and Inglewood, Monday April 11th. Prof. S. S. Twombley, of the San Luis Obispo Ploytechnic School will be among the lecturers and it is expected that Prof. Th. J. Means, of the Department of Agriculture, will lecture on alkali.

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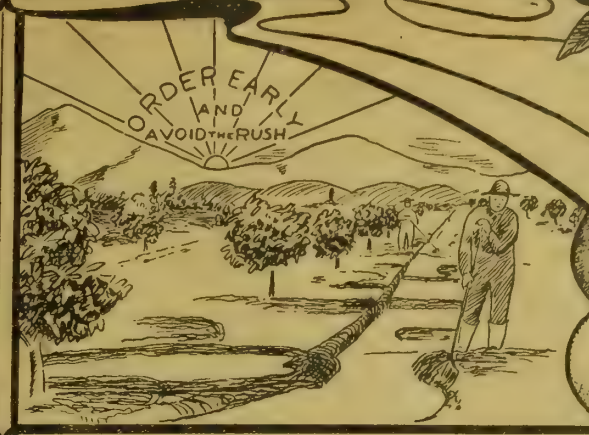

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Good Advice

You know the proverb is that "the meanest vice is advice,"—but that depends. For instance, we have issued a booklet giving the practical side of the orange and lemon business; how to plant, cultivate, irrigate, prune and care for an orange grove. Possibly you would like a copy; it is yours if you will write us the probable number of trees you will want, and mention this advertisement. Correspondence a pleasure.

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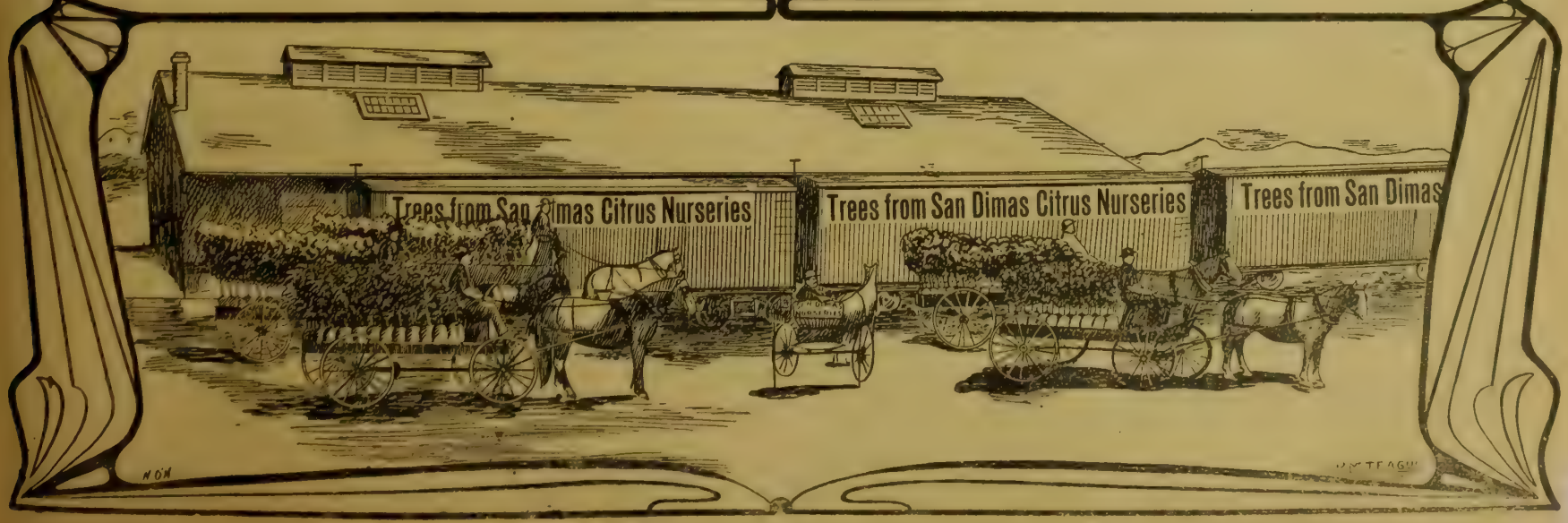

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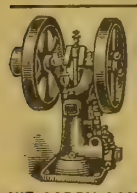
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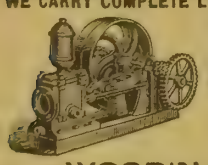
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A. YARNELL,
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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

Tropico has organized a berry growers' association.

Whittier will commence using the Home telephone service about April 1.

Reports from western New York are that the Elberta peach crop for 1904 is ruined.

The Sacramento river was the highest at Colusa, and several other points on the river, it has ever been; so say the records.

The big Moulton ranch at Colusa, which contains about 18,000 acres, was recently sold for approximately one million dollars.

Apple growers of La Grand, Oregon, have found an eastern market for their holdover crop and are now shipping in car lots. They are getting from 35 to 40c per bushel.

For the first time in the history of the coast, potatoes in car lots are being shipped from Washington and Oregon to Kansas City, and eastern markets. The demand has caused prices to jump from $11 to $16 per ton.

Next week the citizens of Hemet will meet to make arrangements for the two days' institute to be held April 6th and 7th. The program includes papers by F. C. Baker, Mrs. Minnie E. Sherman of Fresno, and Prof. A. J. Cook.

The members of the Women's Club of Whittier planted a thousand geraniums on Reservoir Hill last week. Other flowers and shrubs will soon be planted there, the intention being to make it one of the beauty spots of Southern California.

As an indication of the wide extent of the ravages wrought by the San Jose scale in the East and South, a late bulletin issued by the Agricultural department, tells of experiments made with the California wash in Illinois, New Jersey, New York, Maryland, Georgia and other States.

The annual meeting of the State Board of Trade was held at San Francisco, Tuesday, at which time most of the old officers were re-elected. In his report, Gen. Chipman gave the exportation of wine for 1903 as 863 carloads over that of 1902; vegetables, 1705 carloads; canned fruit, 1365 carloads; citrus fruits, 7395 carloads; green and deciduous fruits, 380 carloads. Five hundred ninety-eight carloads of oranges were shipped in excess of the preceding year, a large percentage of the increase being in the northern and central counties.

At the Fresno raisin growers' meeting, held last Saturday, the following members of the association were placed in nomination for directors for the ensuing year: Robert Boot, Hector Burness, M. Theo. Kearney, John Fairweather, A. L. Sayre, D. D. Allison, A. V. Taylor, T. C. White, T. G. Alexander, A P Jordan, J Q Anderson, Joseph Jarvis, J H. Beecher R. K. Madsen, L. D. Scott. At the conclusion of the association meeting Mr. Kearney called to order a mass meeting of growers and presented his plan for controlling the raisin output and markets. Another meeting will be held in two weeks from that date to further discuss the raisin marketing question and to hear the report of a committee of seven, which had been appointed to pass upon the plans proposed by different members.

At the last Fruit Growers' convention held at Fresno in December, a resolution was passed that a committee of fifteen be appointed to devise a plan for the co-operation of raisin prune and all classes of cured fruits and nut growers of the State. The committee to report to the next Fruit Growers' convention. In accordance with the resolution, the following committee was this week appointed by Elwood Cooper, State Horticultural Commissioner: A. R. Sprague, chairman, Sacramento; F. H. Babb, San Jose; S. G. Rodeck, Campbell; A. L. McCrea, Fresno; Arthur R. Briggs, Cal. State Board of Trade, San Francisco; F. Q. Story, Chamber of Commerce, Los Angeles; H. P. Stabler, Yuba City; John Markley, Santa Rosa; F. A. Chadbourne, Suisun; Geo. A. Lamiman, Olinda; R. C. Allen, Bonita; R. H. Bishop, Orange; W. P. Weber, Santa Paula; Thomas Jacob, Tulare; Frank E. Kellogg, Goleta.

The Willamette Valley Prune Association is making an effort to dispose of its prune holdings and, according to the Packer, have adopted the following plan to that end. The association has employed N. J. Damon to go into Middle Western cities and arrange a house to house canvass for the sale of fruit in 25-lb. boxes. The price fixed is 10c per lb., delivered, making a box of prunes cost $2.50. The plan includes the payment of 50c per box to agents. Mr. Damon is already in the East and is supposed to be at work, but no reports of results have been received. Believing that a 25-pound box selling for $2.50 is too large to find a ready sale in cities, the association is planning to procure pasteboard boxes, holding from 2½ to 10 pounds, to be used in putting prunes upon the market in popular sized packages.

THE PRUNE CROP BEST.

At the meeting of the San Jose Farmers' Club, held last Saturday, C. D. Harvey presented a very able paper relative to diversifying crops in the Santa Clara country. Mr. Harvey was very strong in his conviction that there is more money in raising prunes than in general farming, and that the key note to future sucess is to be found in a proper marketing system. We quote in part from Mr. Harvey:

"My early life was spent upon a New England farm, where diversified farming was recognized and practiced in its fullest sense. The meat, butter, cheese, poultry, eggs, grain, as well as all food supplies for the stock, were produced upon the farm. I was familiar with, and still advocate diversified farming and rotation of crops where conditions are favorable, and were I again located where soil and climate, frosts and snow, sunshine and summer showers favored such diversity, I would practice and encourage the same course, but when the peculiar adaptability of soil and climate have shown that prune culture has been more profitable than other crops in this locality, it prompts every intelligent farmer to cultivate that which secures the best return with the least competition from the outside world. It is this which has built up this industry and filled this valley with small holdings and beautiful homes. Many are too small to support a family on the diversified farming plan, and if adopted as a general plan it would compel the small owners to abandon the small holdings, which would then be absorbed by the larger owners. This results, not from any failure to produce the prune successfully, but, as was suggested in the published interview with Mr. Wooster, as follows: 'The market did not expand as rapidly as the industry and consequently prices fell, and growers began to grumble that there was nothing in prunes.' This is the situation fairly and briefly stated. A brilliant success in growing a prune which has no superior in the world must now be abandoned because no corresponding effort is made to market the same.

"A strange remedy is suggested to plant something else and pull up the trees, anything to limit and destroy the industry.

"Suppose we were to try a direct and economic distribution in the different markets of the world, under the control of the owners of the products instead of raising a miscellaneous lot of farm products to be handled and marketed by an equally miscellaneous lot of middle men, whose interest in the industry is limited to the brokerage commission they can secure, would this not be a more feasible remedy than to retain the evils of the present system, and increase the competition in the outside markets where at present we have little opposition and thus retain in our valley the hundreds of small homes which now exist, and profit by the reputation we have already won for the Santa Clara prune, taking no back steps nor back seats in the commercial prune markets?"

The Horn of Plenty awaits every Farmer who uses Nitrate of Soda
(THE STANDARD AMMONIATE)
In the Orchard or for Small Fruits, for Grain, Grass, or Vegetables, results are certain. 100 pounds per acre, used as a Top Dressing for a growing crop, with or without the use of other fertilizers, will yield results that will be to the farmer like Finding Money. Send name and complete address on Post Card for my new Bulletin, "Food for Plants."
I have nothing to sell; no catalogues. I am simply publishing information of Experiment Station Results from the use of Nitrate of Soda, and giving it free.
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BERRY PLANTS
Gray's Gardena Dewberries. These berries are in the lead. Very early, best quality, heaviest bearers and good shippers.
For descriptive list address
W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

200,000 Strawberry PLANTS
Arizona Everbearing from Eastern Plants. Guaranteed to be first-class in every respect, not mixed with any other kind, at $1.50 per thousand, if ordered within ten days.
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Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.
A. E. Harrington Montebello, Cal.

150,000
Arizona Everbearing Strawberries
PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.
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Printers Engravers Binders
Write, design and execute catalogue printing with accuracy and literary excellencies. Let us talk it over with you; write today.
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Fine Stocky Plants
No Frost, No Scale
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—C. B. REAS—
P. O. Success, Tulare Co., Cal.

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Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.

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This district is entirely free from scale or smut

WASHINGTON NAVELS DANCY TANGERINES
EUREKA LEMONS SEEDLINGS
WHITE SMYRNA FIGS

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Established Palms a Specialty.

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Eucalyptus Trees

Are are specialty. We have an extra large stock of strictly first-class gum trees for sale this season, consisting of twelve varieties extra fine large plants. We are headquarters for

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the great frost resistant. Citrus and deciduous fruit trees, grape vines, ornamental trees and shrubbery, roses, palms and potted plants. Send for catalogue and information.

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Long stroke, steady movement, runs smoothly, and is perfectly noiseless.

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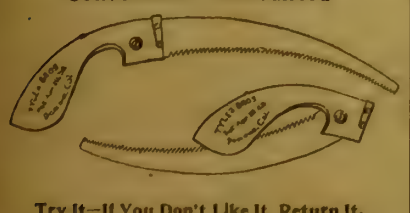
or Fairbanks, Morse & Co., Los Angeles

THE POCKET PRUNING SAW

Convenient—Warranted



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IT JUST FITS THE HIP POCKET

The teeth of this saw are disposed at right angles to a straight line from the grip of the handle to the point of the blade, thus permitting the same ease of operation its full length. The peg or cant tooth makes it particularly adapted for green wood. It will not clog or gum. Recommended by all who appreciate a first-class pruning saw. **Price $1.00.**

DEALERS WANTED EVERYWHERE.

GEO. R. TYLER Pomona, Cal.

Coast News and Notes

CONTINUED

LIVE STOCK.

Horses and mules from Northern California are being shipped to the Philippines in large numbers.

It is estimated that there are about 7,000 head of cattle in the Imperial valley and about 600 head of dairy cows, and about 5000 hogs.

HORTICULTURE.

W. N. Woodson, founder of the Maywood colony, advocates the planting of almond and fig trees and grape vines.

The Upland Citrus Association is erecting an elevated orange washing platform similar to the one in use at Duarte, which has proven successful.

During March deciduous fruit trees will be in bloom and during this time danger from frosts is always feared. So far reports are fine for the "setting" of a good crop.

Orange growers will have to stop picking for an indefinite length of time. The delay is occasioned by a shortage of cars that no one seems able to explain.—Citrograph.

The Imperial Press says that over 100,000 trees have been planted in the valley during the past sixty days. It also states that negotiations are nearly completed for the erection of a 1200-ton beet sugar factory, to cost $1,250,000, in that locality.

AGRICULTURE.

The Fullerton News says the cabbage crop from that section will be only about thirty cars this season, owing to the early drouth.

Two hundred acres of Egyptian corn will be planted near Chino by the Chino Land and Water Co. It is proposed to feed the corn with beet pulp to cattle next fall.

The Fallbrook Review advises those who have hay to sell to dispose of it now as the prospects are flattering for a fine hay crop. In that event the price of hay will be cut very considerably.

The Eureka Mfg. & Preserving Co. has increased its capital stock to $50,000. It has now in operation a large factory and expects before long to operate a cannery to can vegetables and fruits.

The vegetable gardeners around Alameda have begun suit against the Payne Smelter Works for damage to their crops. A peculiar feature of the matter is that, notwithstanding the alleged damage, the vegetable men have recently agreed to pay $100 a year more rent for the land than in the past.

Hay cutting at Imperial will begin about the middle of March. The average yield should exceed two and one-half tons per acre. The recent warm weather has forced the barley crop beyond the ability of the cattle in the Imperial valley to keep it from heading out.

Elwood Mead, professor of the Institution and Practice of Irrigation at the University of California, has just returned to California after a fifteen months' absence, during which he studied the irrigation and drainage systems of Europe and the United States, and his observation in regard to the needs of California is that the agricultural industry of California will be greatly benefited by an adequate drainage system.

At the meeting of the San Jose Farmers' club, held last Saturday, it was decided that the next meeting would be held at Sorosis in about two weeks. The subject for discussion at the meeting will be: "Resolved, That the farmer has nothing to say in determining the price of his products." It is expected that farmers from Saratoga, Campbell, Los Gatos and Cupertino will join in making the club meeting a success.

MISCELLANEOUS.

A boulevard is being constructed between San Bernardino and Colton.

A large number of pumping plants are being installed in Tulare county this season.

The San Jose Ostrich Company is a newly incorporated institution capitalized at $25,000.

Entries for the bench show of the Santa Clara County Kennel club will close April 15th.

The Womens' club is at work getting everything in readiness for the annual flower festival to be held at San Jose.

The complete form of a mastodon was found at Hillside, near Seattle, last week. The skeleton is valued at $50,000.

A meeting of citizens interested will be held March 12th, to aid in the construction of an electric road from Globe to Tulare.

Escondido wants a cannery. The last issue of the Times of that place advocates the moving of the idle cannery from San Diego.

A big dredger is at work along the river south of Napa building eight miles of levee to reclaim a large body of rich tule land.

The Fish Commission will send a man to Mexico to secure a large number of a new variety of quail, to be tested in country south of San Francisco.

The East Napa woolen mills are being refitted with new machinery, and by April first will be in operation. The capacity will be 200 comforters and 100 mattresses per day.

The notice of raise of rates by the Sunset telephone company at Vacaville has resulted in a heavy loss of patronage and the probable organization of an independent exchange.

President Moore of the National Good Roads Society is expected in California shortly and it is expected that two big "good roads" meetings will be held while he is here, one at Los Angeles and one at Sacramento.

The California Cordage Company, with manufactory and headquarters to be located at San Jose, has been incorporated. The company is capitalized at $250,000, mostly subscribed, and will at once commence the manufacture of cord.

The property owners in Perris valley have filed a suit demanding large damages from the Temescal Water company, it seems, because, as is alleged in the petition, the water company has drained the country of water and left the land dry.

A great system of water works is being surveyed to bring the waters of Pend d' Orille lake in Idaho to Eastern Washington, where more than a million acres of fertile land will be irrigated and made as rich as the lands in the Imperial valley.

At a meeting of the State text book committee held last week at Sacramento, State Printer Shannon was directed to manufacture 75,000 introductory geographies, 50,000 introductory histories, 50,000 grammar school geographies and 75,000 grammar school arithmetics.

The Manufacturers and Producers' Association of this State has in preparation a graphic exhibit chart to be displayed in the California building at the Louisiana Purchase Exposition at St. Louis, which will give a most striking and impressive presentment of the industrial activities of California. The chart will be about 10x14 feet in size. Its title will be as follows: "What Two Per Cent of the Population of the United States Are Doing in California—Industrial Statistics of California and of the Remainder of the United States Compared."

Ten thousand excursionists are scheduled to arrive in Southern California this month. Railroad officials say the rush is to be a record breaker and the heavy trains will tax the motive power of the companies to the utmost. It may be stated with certainty that of this army of tourists fifteen per cent will remain in the State as residents.

The Carnegie Library building at Santa Monica is rapidly nearing completion and it will be finished by the date required in the contract, March 20.

A colony of 544 persons is about to locate in Santa Barbara county.

RAIN! RAIN!

I have a few thousand

Washington Navel Orange Trees

One and two years old at a very low price, to clear ground for replanting to orchard. Some one will get a snap in first-class trees. True to name and thrifty, healthy stock. No scale, no frost. Come and see.

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Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

SEED BED STOCK

Sweet Orange, Sour Orange, Pomelo and Citrus Trifoliata, also Valencia and Navel Buds. Stock clean, thrifty and first-class in every respect. Write us and find out.

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RES: COLORADO ST. EAST OF ALLEN

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SHADE TREES

We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand

Roses, Palms, Ferns, Vines,
Ornamental Shrubs, Etc.

Write for Catalogue Free

Sycamore Grove Nurseries.

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4584 Pasadena Ave.
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ENCINAL NURSERIES

SUNNYVALE, CALIFORNIA

The largest stock of Apricots and Peaches in Santa Clara Valley

Apricot—Blenheim, Hemskirke, Moorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings, etc.
Prunes—French, Imperial and Sugar.

Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

F. C. WILLSON, Prop.

Want Some Citrus Trees

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Contract now for spring delivery Washington Navel & Valencia Late trees also grape fruit or orange seedbed plants for nursery

POLLARD BROS.
Alhambra, Cal.

$240 FOR LARGEST WATERMELONS

After 40 years of experimenting and testing all notable varieties of watermelons, we now recommend, especially, "Tenderseet" for home use and "Emerald" for both home and market. We think they are the best obtainable. Seeds 10c a paper in silver. 24 (0) papers. The purchaser who grows the largest melon of either variety will positively receive one tenth of our gross sales of seeds of that variety. Caution: Wrap your silver in a little paper, and write your name and P. O. Address plainly.

LEE SEED CO., Burnt Corn, Ala.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

INCUBATORS.

Some of my sisters in the poultry yard are having trouble with their incubators and appeal to me for advice and help. It is usually the sad cry that twenty or thirty, or even fifty per cent of fertile eggs do not hatch out. Some say the chicks even pip the eggs but cannot get out. Others complain that even when the chicks hatch, a large number are crippled and have to be killed and some hatch out with one leg broken or dislocated.

I have been through all of this trouble myself, have studied and pondered and wept over them, poor little chicks, and finally I have, I think, discovered the cause, at least I was thoroughly satisfied in my own cases. The cause of cripples is invariably overheating of the incubator, either the heat has run up some time when not noticed, or the thermometer may be incorrect, one overheating may do it. If the eggs are overheated before the sixth day it is death to the germ, but why then, are not all the eggs spoilt, you ask? Because, in most machines, the heat varies in different parts of the egg chamber, so that all the eggs are not subjected all the time to the same heat. Some eggs also have thicker shells and are larger or smaller than the others. Those that die in the shell at or before the sixth day are usually rejected as infertile at the second test. Those that die from over heat later on are usually considered weak germs, but some grow to be great big chicks and yet cannot get out of the shell. (How one does regret their loss!) These come from too much moisture in the egg. The eggs ought to have been aired more and dried out more, so the chicks would have more room to turn themselves inside the shell, and would live instead of being smothered to death. The eggs both under hens and in an incubator require cooling and airing and turning at least twice a day. If you set a hen the same day that you start the incubator and examine the eggs of both, through the egg tester, you will learn a great deal and you can air them so as to keep both sets of eggs even. I did this and was surprised to find how much larger the air space became under the hen. I watched and sfudied most carefully and that is how I discovered what made my chicks die in the shells. I do not know the scientific reason for this, it may be also that the egg shells expand and contract, as most things do, by heat and cold, and that this expansion and contraction, the result of airing the eggs, breaks down the tough fibre of the shell, so that when the chick is due to hatch, it can break its way through. Or it may be that the air cell being larger, the chick can turn itself better, and so kick its way out, or it may be that the cooling and heating again of the shell makes it sweat, and that this gentle moisture is what the shell requires, but this I do know by sad experience that if the eggs have been insufficiently aired and cooled, and if the air space is, in consequence, too small, whether under hens or in incubators chicks will die in the shell.

By my own experience I have learnt that over heating (106 degrees is danger point) will kill the germ in the early stages, say for ten days; after that it will make cripples, "spraddlers," that have to be killed. Not airing sufficiently, or not having the ventilators open enough, or not drying out the eggs properly, will make chicks die in the shell and will hatch chicks sometimes with one (usually the left) leg out of joint. The poor little chick being cramped for space, dislocates its little leg at the knee joint. I would again urge every one with incubators to have their thermometers tested, so as to be sure they are right; it may save you many dollars worth of eggs and chickens. In this climate eggs do not require moisture in the egg chamber. I have tried it and smothered the chicks by it. If I thought moisture was required I would prefer floating the eggs in warm water (about 98 or 100 degrees) about two days before hatching time. I keep the ventilators open all day, close at night in cool weather to keep the temperature even, and keep them closed during the hatch.

* * *

ANSWERS TO QUESTIONS.

Balanced Rations.—Mrs. Basley: I have been an interested reader of your articles in the Cultivator on "feeding for eggs." As I understand them they refer to hens kept in yards or pens. Will you kindly give us an article upon feeding hens running at large in an orange orchard. Do they not find a balanced ration for themselves in a measure?—Subscriber, Claremont.

If your orange orchard is kept as clean as most of the orchards, there would be poor picking for the hens, not a blade of grass or even a leaf of weed, they will probably learn to eat the oranges and orange leaves. A friend of mine complained to me that the hens ate the lemon leaves and even lemons. "Poor things!" I exclaimed, "that shows they have no other green food." You will have to judge for yourself, if the fowls have greens enough; do they also have grain enough (three ounces per hen); as for the animal food, what insects or worms would they find? Here in the summer time there are none, the worms go deep down into the ground and the other insects disappear or dry up. A good way for you to judge would be to examine the fowls at night; their crops should be full when they go to roost; or a better way still would be to kill a hen at night, for dinner the next day, examine the contents of her crop, weighing it, and decide for yourself what your hens are eating and if they have sufficient or where they lack and supply the deficiency. Or you might try Dr. Nottage's plan, given in last week's Cultivator, of letting the hens balance their own rations.

* * *

Keeping Eggs.—Editor Cultivator: I would like information as to keeping eggs through the cheap prices for same, if there is any way that is practicable. If you know of any way, or know how I could obtain such information I would be very grateful to you for same.—A. C. B., Santa Barbara.

I, personallly, have tried in the last twenty years the following ways of keeping eggs—rubbing the eggs all

First-Class Incubators and Brooders

The "PACIFIC" is the most sensible Egg Hatching Machine yet invented and does its work perfectly without a nurse or night- watch. Send 4c for my 70-page Catalog No. 2. It tells all about them and has other practical matter on poultry raising, poultry houses, etc,, which makes the book worth a $ to anyone who keeps a dozen fowls.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec- 16, '03.
Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yours truly,
Mrs. A. N. Zumwalt.

Address **Wm. B. Dean,**
929 E. 25th St. Los Angeles, Cal.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

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Three silver cups and 24 prizes Eggs, $2 for thirteen

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25-lb. Sack for 125 Chicks $1.00 — 50-lb. Sack for 250 Chicks $2.00 — 100-lb. Sack for 500 Chicks $4.00

Contains everything they need. No bowel trouble when this is fed. If your dealer does not have it, get it shipped direct. Circular free. Thousands of testimonials.

Geo. H. Croley, Poultry Supplies

508 SACRAMENTO ST., SAN FRANCISCO, CAL.

over with a small piece of butter to fill and close all the pores, eggs keep fairly well for three months; the same by coating them with vaseline. Packing in sand, with the little end down, fairly satisfactory; placing in bran, same way, also in saw dust, unsatisfactory; in wood ashes, also unsatisfactory. Putting down in lime and salt solution, fairly satisfactory, if the lime is not strong enough to cook the eggs—and lastly, the liquid glass solution, which is thoroughly satisfactory in every way. The following formula of silicate of soda (called also "water glass" and "liquid glass") varying slightly in strength, was used with success in tests made at the Agricultural Experiment station of Rhode Island, North Dakota, Montana and in the Dominion of Canada:

Formula: Water glass (silicate of soda), one part; water that has been thoroughly boiled and then cooled, seven parts; mix the water glass with the water thoroughly, pour the solution over the eggs.

The proportions of water glass to the cold boiled water varied in the different experiments from one part water glass and five parts water to one part water glass and ten parts water. In the above formula I quote a happy medium and the one I tried myself a year ago with perfect success. All tests made at the experiment stations proved satisfactory, some eggs being kept ten months. In all the tests the eggs were placed in stone jars.

Last year on the thirteenth of March a neighbor and I put some eggs into the water glass, as an experiment and when we ate them at the end of eight months, found them in a state of perfect preservation. The eggs, when broken into a saucer, would stand up as if new laid; they were, in fact, perfect in looks, taste, smell and for cooking. I believe that eggs from hens kept without a male bird, and gathered fresh every day, placed immediately in the water glass would keep over a year and in perfect condition. The water glass does not stain the eggs; it makes them feel smooth and clean. Eggs, of course, must be clean when put into it.

The eggs I tested were placed, some in a stone jar, others in a five gallon tin oil can. Those in the tin did not do as well, as the tin rusted and discolored some eggs. Another year I would place them either in stone jars or small wooden kegs. The water glass cost seventy-five cents, at the drug store, per gallon. One gallon is enough to keep about seventy-five dozen eggs. A weight should be used, a stone on a board to keep the eggs down under the solution for, of course, if they come out into the air they will spoil.

I would strongly advise any one wishing to keep eggs to dispose of all the male birds, for when an egg is fertilized it has the small germ of life in it, when the egg is kept a certain time the germ dies, then there is death, the dead germ in the egg, which decays and a bad egg is the result. Eggs not fertilized keep much longer and have a much better flavor. So dispose of your useless roosters. Eggs should be kept in a cool place always.

HOW TO TREAT FOR HATCHING.

When receiving eggs ordered from a distance, do not put them under the hen or in an incubator immedately, but let them remain quietly for twenty-four hours, so as to allow all the fertile germs to recover their natural position, as the constant jarring on the cars or vehicle is apt to strain the fine fibres. By adhering closely to this a much better hatch can reasonably be expected.—James Hague.

POULTRY IN NORTHERN CALIFORNIA.

The present season for the poultry raiser promises to be one of the most successful ever experienced in Northern California. We find that the poultrymen, both those operating on an extensive scale as well as those working upon a more unpretentious basis, are hatching out more chicks several times over than ever before. This looks very much as though the poultry industry is assuming a very firm foundation, in fact all indications point toward this as one of the leading industries of the State. Its magnitude is not half realized by the public generally, yet statistics prove that there are actually more people interested in poultry than in any other of the industries pertaining to agricultural and live stock interests. Take, for instance, a drive from San Francisco or Oakland into the interior, and one will notice "chicken" ranches large and small on each and every side, and not only are chickens found in the rural districts and in the country, but many familes who have only one small city lot find it profitable to keep and raise a few chickens. We have been astonished recently at the number of people who have come to our notice who are able to pay their entire grocery bills from a small flock of 25 to 100 hens. Eggs are always in demand and a staple article everywhere, and the San Francisco market is one of the best in the world for eggs and poultry, the result being that poultrymen who are within a reasonable distance of the metropolis are able to market their poultry and eggs at the very best prices the year around. Fancy market eggs and dressed poultry bring splendid prices, and each year hundreds of people within a short radius of San Francisco are embarking in the poultry business. Of course, there are many failures, but these failures may be attributed to neglect and lack of the proverbial "horse sense" coupled with the very foundation so necessary—energy. To make a success of the poultry business one must give every detail close and careful attention, and neglect nothing, and when the work is systematized it is very pleasant, in fact a delightful business. We know of nothing which will bring such satisfactory returns on so small a capital as a "poultry ranch." Some five years ago a friend of ours started out with a capital of less than $200.00, thinking he could possibly make a living for himself from raising "chickens." He rented a small place of five acres, and bought 50 White Leghorn hens. He worked for neighbors the first year considerable, doing his own work at the same time, incubating and brooding all the chicks he could accommodate. The second year he had a fine flock of 300 pullets, and quite a little "apparatus" such as incubators, brooders, houses, yards, etc., for carrying on his business. He has now been in the business five years and has a flock of 1500 hens and is carrying on one of the most successful businesses we know of. It seems as though it requires less of his time to care for those 1500 hens than it does most people to take care of 200. He works regularly, but not hard as some people would consider the duties, and the best part of the bargain is that his bank account is growing most satisfactorily. Aside from selling eggs for market and securing the highest market quotations, he has a splendid business furnishing eggs for hatching to other breeders and realizing therefrom good prices. He is one who has made poultry pay, and pay well. We know of several others almost as successful, and hundreds who are do-

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Prussian Stock Food

We Carry a Full and Complete Line

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ROUP and CHOLERA

Why do so many so called poultry medicines fail? Because they are made to sell at 100 per cent and not to cure. Palmer Poultry Powder sells on its merits. Roup or cholera is no barrier to the poultry raiser now. Before this famous remedy was tested and its value proven the hatchet was used for roup. Now Palmer's Roup Remedies are used and the fowls saved.

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Trade Mark

You may think your fowls are healthy but do not lay. You buy egg producing food to force egg production. When your fowls are healthy nature fills the egg basket. Don't be deceived by cheap nostrums.

Palmer's Cholera Compound makes and keeps your hens healthy and vigorous and doubles the egg product. To try it is to buy it, to buy it is to make money.

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Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.

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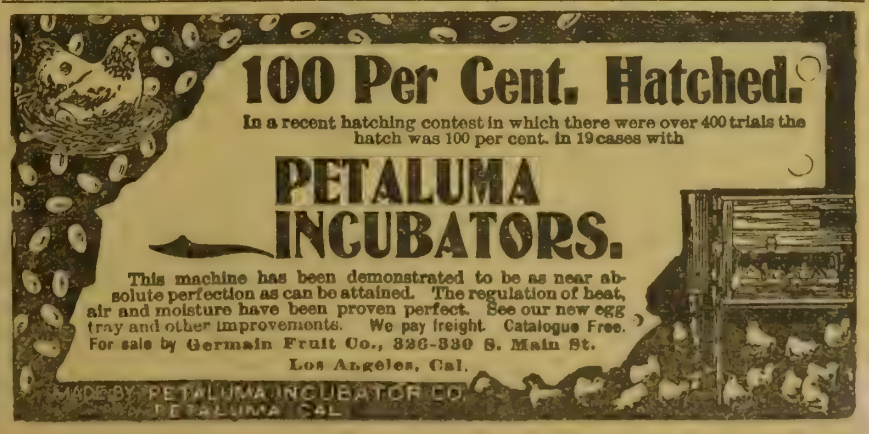
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In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
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This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
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ing well. Never in the history of this State has there been such a demand for high class, pure bred stock. Breeders report that long before the ordinary season was over for selling stock their supplies were exhausted, the early demand had been so great. We can attest to this fact ourselves, for we have shipped stock to nearly every section on the Pacific Coast, and find the interest in thoroughbred poultry on the increase everywhere. Many people are locating here from the East and taking up the raising of poultry as an occupation, for California offers the greatest inducements in this line.

Poultry shows held the past season have done much to create interest in poultry. People visit these exhibitions without any idea of ever becoming interested enough to raise any chickens themselves, but it is very often the case that just such people are struck with the chicken fever so severely that they go into the business for all they are worth, of course this creates a demand for the fancier's best product and at fancy prices. Such people do not always make a success of it, but those who think before they leap usually do. It pays handsomely to start with only the best stock money will buy. For instance, suppose one starts to raising chickens and pays $5.00 for a nice male bird, and $3.00 each for six females. This will give him a start and from the eggs this pen will lay he may raise 100 or more pullets the first season. If they are fine thoroughbred stock, he will have a handsome flock, and all he raises that he does not care to keep are the same breeding as the original pen and will bring a much better price than low grade stock. The original outlay for the pen of pure bred birds is nothing compared with the amount he will realize from his flock from keeping only thoroughbreds, over and above what he would for mongrels. This fact is demonstrated every day, and $20.00 or $25.00 outlay for a pen of six fine birds is the cheapest investment one can make. It pays to get only the best. A little difference in price should not influence one to take an inferior bird and use as a breeder.

Leading California breeders are preparing to send a carload of their choicest specimens of high class poultry to the St. Louis World's Fair next October, when it will certainly be proven to the country that this State is right in the front for producing the finest that grows. Those who are enterprising enough to exhibit there will certainly reap splendid returns, for California certainly produces some of the very finest poultry of any section in the country.

That California within a few years will be the greatest poultry producing State of the Union is the opinion of those who have watched the industry grow. We have the climate and almost every other advantage in our favor.—J. C. Williams, of Williams Bros., Fruitvale, Cal.

WATER FOWL CLUB OF AMERICA

At the annual meeting of the Water Fowl Club of America, held at Lincoln, Neb., January 20, 1904, the following members were elected to office for the ensuing year: James Hague, Oakland, Calif., president; W. R. Curtis, Ransonville, N. Y., vice-president; E. E. Smith, Lincoln, Neb., secretary, and M. F. Delano, Millville, New Jersey, treasurer; Chas. McClam, New London, Ohio; W. T. Stack, Kansas City, Mo.; J. L. Lamont, Whitewood, N. W. T., executive committee.

To the duck raisers who are strangers to our fancier's circle I extend an invitation to join us and assist to push forward the car of progress in water fowl culture. I hope that every one interested in water fowl who is not now a member of the club, may be able to see the advantages accruing to him as a member. For further information write James Hague, President Water Fowl Club of America, Oakland, Calif.

AN UGLY DISEASE WHICH CAN BE PREVENTED.

If there is a poultry house on the place in which hens were kept last winter that were affected with scaly leg, the hens that are put in confinement there the coming winter will have the same trouble, unless the house has in the meantime been very thoroughly cleaned and disinfected. More than this, if one of last year's flock remains, on the legs of which the traces of the disease are still visible, and is put back in the house with the others that have heretofore been free from the trouble, she will communicate it to the entire flock before spring. Scaly leg is easily cured in its first stages, but is hard to get rid of when it has become long established. It is an ugly disfigurement, and should be subdued at the start.—Farmers' Tribune.

BREEDING TURKEYS.

One good tom is enough for 10 hen turkeys. Too many hens, however, should be avoided. One union is sufficient to fertilize all of the eggs in one laying of the turkey hen, and hence it has been said that the number of hens to one turkey cock may be unlimited. The best breeders, however, find that as the number of hens allowed one bird approaches a dozen, the chicks show a falling off in constitution; and the number should therefore never be over a dozen. A tom may be used for breeding at 2 years old, and the hen at 12 months, but are not in their prime till a year older. A common mistake is made in mating stock that is too young. —Pacific Homestead.

Some two-year old hens have as much grit in their disposition as pullets have. Such hens, if active appearing, better be retained their second year. One New York hen is just reported as laying 263 eggs in her second year.

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
LOUIS S. FLETCHER, ANAHEIM. CAL.

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Strong constitutional birds. Small pens. Fertile eggs guaranteed. Reasonable prices for commercial hatching. Pains taken in packing.
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Points of Merit That Are Causing Such Large Sales of These Machines All Over the U. S.:

A continual circulation of pure, fresh, warmed, moist air in every part. Chicks can regulate their own wants as to heat and air by having a range of from 60 to 100 degrees to go into. Chicks will not crowd, as they have warm material to place their backs against similar to the old mother hen. No chilling or overheating. Lamp fumes or gasses entirely separated from chicks and fresh air. Brooder can be heated up in fifteen minutes in any season. The most economical on oil of anything in the shape of a brooder. One filling of lamp—3 quarts of oil—will last from five to seven days in mild weather. The incubator is guaranteed to hatch chicks as strong as the hen can. The only brooder that has and is capable of raising 100 per cent, not only once, but time after time. Our catalogue and book combined will explain more of the merits that have made these machines famous. Send for it. Mailed on receipt of 10 cents in stamps. It has helped thousands to success that have previously failed with other makes.

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Eggs—$2.00 per 15
WHITE MINORCAS
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Poultry prefer it to anything else. Makes them thrive wonderfully. Large packages fresh seed, postpaid by mail, 1 package, 50c; 3 packages, $1.00.
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200-EGG INCUBATOR $12.80

This perfect 200-egg Wooden Hen at $12.80 is a startling trade innovation. It will do the work of the most costly hatcher, and always keeps in order. Hatches every fertile egg. Catalogue with fourteen colored views sent free.
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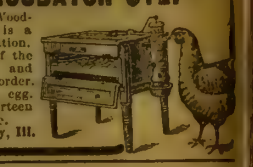

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All hardy farm raised stock. 75 per cent fertility guaranteed. Eggs per setting, $2.00; 3 settings for $5.00.
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There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
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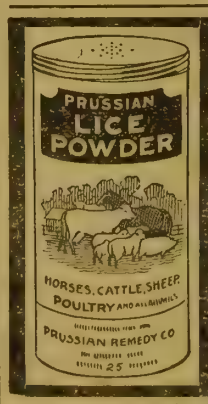

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Cattle, Hogs, Sheep, Etc. Easy to apply—dust it on.
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CHAMBERLAIN'S PERFECT CHICK FEED.

World's Chick Feed of To-day. The only original **dry Chick Feed**—all others are worthless imitations. **Chamberlain's Perfect Mash Egg Feed** supplies your hens in winter with grass and meat, and is the greatest egg food known. Feed your hens **Chamberlain's Perfect Hen Feed** night and morning, **Perfect Mash Feed** at noon and you will have eggs winter and summer. Chick Feed for sale at $3.25 per 100 lbs.; Hen Feed $2.75 per 100 lbs.; Mash Egg Feed $2.20 per 2-bushel sack; Evergreen Shredded Clover (green as grass) $3.25 per 100 lbs.

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SPECIAL PRICES ON TON LOTS.

Winner Buffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever heldwest of the Missouri.

WHITE LEGHORNS

Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."

Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from famous egg-producing strains of large eggs.

Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect.

None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.

To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders, Selected not only for their Show qualities, but more essentially for their laying qualities of la ge eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize pullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and first prize hen, Snow Queen, at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be fonnd.

"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger eggs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Such strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.

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EGGS FOR HATCHING

From grand laying strains Black Minorca and White Leghorn fowls. Pens headed by prize winners, $1 and $2 for setting of 15. One Plymouth Rock pen headed by bird bred at eastern experiment station from 250-egg strain, $2 per 13 eggs Stock for sale.

J. P. McDonough Geyserville, Cal.

INDIAN RUNNER DUCKS
AND
WHITE PLYMOUTH ROCKS

Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.

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THE GOOD FOUR

I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to

EGGS, $1.50 PER SETTING

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EGGS FOR SALE

rom Thoroughbred White Plymouth Rocks id Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.

. S. THOMPSON, 126 E. AVE. 55, LOS ANGELES

arred Plymouth Rock Eggs for Hatching

1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15
MRS. Z. A. WOLLAM.
. CENTRAL AVE. RIVERSIDE, CAL.

Don't Feed Lice.

Fowls have too great a weight to carry to make you profit when they are infested with vermin. Lice are easily

KILLED BY FUMIGATION

You do not have to handle the fowls and they are not injured. Paint the liquid **Prussian Lice Killer** on the walls, roosts, dropping boards and floors of their houses, and the fumes that arise quickly rid them of all vermin. The fumes penetrate to every nook and corner. Not a mite can escape them and it means sure destruction to all insect pests. **In cans, 50c and $1.00.**

Prussian Lice Powders excel anything else in the powder line, if you prefer that method. Get either from your dealer. If he does not have them, write to us direct.

Prussian Remedy Co., St. Paul, Minn.

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MATURED

Standard Bred

arred Plymouth Rocks (Ringlet Stn)
ight Brahmas (Felch Strain)
uff Orpingtons (Riddell Strain)
. C. W. Leghorns (Emery Strain)

Only Birds that have

MOULTED

are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

CAPTAIN MITCHELL
SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for outhern California," $1.25, on sale by Calitor Publishing Co.

9 Ribbons at San Francisco and Los Angeles Shows. Entries 26.

L ORO POULTRY FARM

FRESNO, CAL.

. H. HOLLAND - Proprietor

ooking orders for eggs from yards : White and Brown Leghorns, White uff and Barred Rocks, Blue Andalu- ans, Light Brahmas, Silver Spangled amburgs, Buff Cochin Bantams, lack Minorcas, Pekin Ducks and ronze Turkeys. Prices, $1.00 to $3.00

A new chicken-picker has been made which is said to possess merit, something the previous devices have not shown, it seems. In the future, it may be expected that all the big poultry agencies will turn over to their patrons chickens and other feather creatures which have been separated from their feathers by this new and highly sanitary device. The operation of the picker is easy. The fowl is placed on a sliding car or table directly beneath the "fingers" of the machine. The operator starts the apparatus and so moves the table as to bring every portion of the fowl beneath the fingers, which rapidly pick off the feathers. The latter are drawn upward by the other portions of the machinery and deposited in bags that are waiting.

The "Puritan Poultry Farm," Stamford, Conn., which claims to be the largest poultry raising plant in the world, does not bother to disturb incubator eggs by testing out the infertile. But they understand handling fowls so eggs are generally fertile. A fertile egg generates heat, an infertile does not. Do not, therefore, let thermometer lie on latter to mislead. Better use two or three thermometers as checks on each other. The clear infertile eggs, when thoroughly cooked, make good poultry food. Those which start to hatch and then die, decay and are only fit to feed hens that have the egg-eating habit.

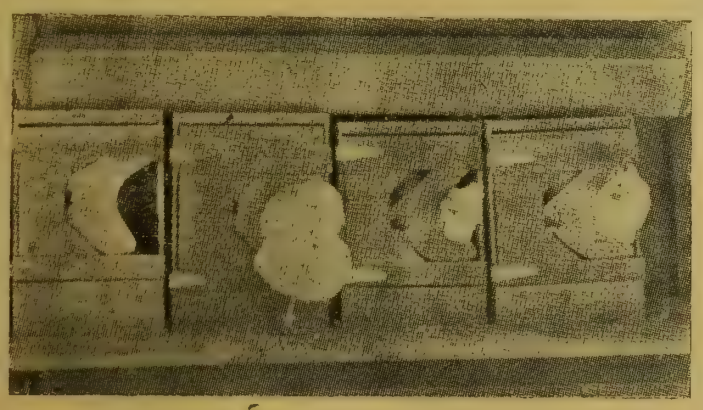
Profit in poultry business—as in everything else—only comes as the result of good, steady, hard work and close application by those who known how to handle fowls. Every one must learn how to do this before he will gain a living therefrom. The best way is to start in a small way and gradually extend the business until it is as large as desired. And having mastered every little detail by having served an appreticeship at the same, one will eventually become master of the art.—Farmers' Sentinel.

The stunted pullet will sometimes be the first one to begin laying in the fall. She completes her growth some weeks ahead of her assocates, and as a consequence, the matronly instinct asserts itself the soonest.

The highest scoring female of the White Leghorn variety of poultry is said to be owned by a breeder at Waco, Texas. Her score is 97 points—the highest in the world. Hewes was the judge.

IDEAL TRAP NEST.

The above illustration is one of the most simply constructed, cheapest in cost, and at the same time most effective. It can be constructed of empty soap, fruit or oil boxes, by anyone handy with tools. It is an entirely new form of closure or trap, a patented device, to take the place of a trap door. This attachment consists of two parts only, is made from wood and attached to the nest box by two screws. That is about all there is to it; there is no inner box. No tripping door. No inclined platform. No string, spring, pulley, rubber, roller, hinge, wire, weight or chain, but simply two pieces of wood of original design, secured to the box by two screws operating more simply and entirely unlike any other trap nest. These trap nests enable you to cull out all unprofitable birds, and thus from the good ones left breed up in one season a valuable flock of far better layers and better birds with high egg records. W. W. Howard of 3024 E. Main street, Los Angeles, is handling this trap and reports best of results with it.



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C. H. SESSIONS, ASSOCIATE EDITOR

FEEDING HORSES.

In feeding horses very few stop to think that their stomachs are small and that they cannot stow away as much forage as ruminating animals of their size, but notwithstanding this, most farm horses have their racks stuffed with hay two or three times a day—getting all they will eat. It is a fact that this produces an uncomfortable distention of the stomach, flatulence, indigestion, weakness, laziness and sometimes founder. As a rule it is cheaper and every way better to feed horses less hay and more grain. It is the height of folly for any farmer to scrimp the allowance of oats and stuff the horse with hay.

While twice a day is often enough to feed ruminating animals, horses should be fed three times. Cattle have large storage capacity. They can bolt the food as fast as they can wad it down and afterwards regurgitate it and masticate it at their leisure. But the horse, not having this power, requires to be fed often and less at a time. A work horse should not be fed hay at noon, as he must carry it around all afternoon undigested. At noon feed him a good allowance of grain only. He thus gets the requisite amount of nutriment in a more concentrated form. About 14 pounds a day is all a horse should have. Make the rest of his ration some kind of grain. Feeding too much hay often causes heaves. Liverymen have generally learned how to feed work horses. They give very little hay, some none, but a small quantity of straw to add bulk to the ration of grain.

Few stockmen in their feeding operations take into account the widely differing structure of the stomachs of ruminants and horses. In the former the stomach consists of four divisions, whereas the latter has but a single sac. As a result of this difference, digestion with a horse is a much simpler matter mechanically than with a cow, though chemically the results are similar. The stomach of the horse is but slightly called into action during the digestive process, and provided the food be properly masticated and incorporated with the salivary secretions, it is arrested for a short time only in the stomach, but is passed onward into the intestinal canal, where the process of digestion is completed. In the stomach the food is brought under the action of the gastric juice only. On this account the intestines are more liable to disease. A surplus of easily digested food is apt to derange the small intestine; whereas food containing much woody fibre, such as over-ripe hay, coarse straw, etc., accumulate in the large intestine and causes derangement, inflammation, and even paralysis of the intestinal tissue. Boiled or steamed food is retained in the stomach too long and causes distention. Such food is not prepared for intestinal digestion. This elementary knowledge of the anatomy and physiology of the stomach of the horse should suggest to the feeder that a large digestion of hay or coarse fodder of any kind by the horse will result in disorders of the digestive organs.

Experiments have been made which show that horses have a "uniformly lower digestive efficiency than ruminants." The horse dissolves less crude fibre than the steer or sheep, and this peculiarity is more marked in the case of the crude fiber of fodder crops than in grains. The horse on an average retains his food in the digestive tract 4 days or less; cattle 3 or 4 or 7 or 8; sheep or goats from 3 to 4 days with ordinary rations to 7 or 8 when straw is eaten. That food is actually more finely divided by ruminants in chewing and digestion is indicated by the mechanical condition of the manure. In sheep manure the undigested residue is in smaller fragments than in that of cattle. Since crude fiber is chiefly digested by the action of bacteria, the longer the materials remain in the digestive tract the greater the opportunity for action of such micro-organisms.

	Horse.	Cow.
Average capacity of stomach	19 qts.	266.9 qts.
" " " small intestine	67.4 qts.	69.7 qts.
Average capacity of large intestine	137.4 qts.	40.19 qts.
Average length of small intestine	73.6 ft.	150.9 ft.
Average length of large intestine	24.5 ft.	36.3 ft.

—Iowa Homestead.

ANNUAL MEETING OF THE JERSEY BREEDERS.

(Continued from first page.)

as thereby will be secured vigor, constitution and procreative powers, size, lung expansion, and full round body, with strong heart action, are much desired in a bull to head the herd. We should look to beauty as well as power in the sire and especially so in Jersey stock. Quality and beauty may be united in an animal. Seek to breed up all the time, for neglect tends to backward breeding."

"Organization" was discussed by Mr. James Boyd. In this strong paper he showed clearly the benefits of organization to accomplish results in the work before the Jersey Breeders' Association. This paper will be produced

E. E. Moore, of Compton, talked briefly of the mistakes of Jersey breeders. In this address he supported the doctrine laid down by Prof. Major in many essential points, and showed clearly the necessity for care, capacity, and management in successful breeding.

Dr. Hassen, late member of the Legislature, suggested the methods to be employed to secure needed cattle legislation. "Awaken the interest of your member and senator," he said, "and if your bill has merit follow it from the committee to which it is assigned until it comes from the executive with his signature of approval." Mr. Boyd followed this talk with the observation that much can be done along this line by enlisting the sympathy of Farmers' Clubs, and cited the passage of several bills at the last session of the Legislature advocated by clubs throughout the State. Organization also will materially assist in obtaining needed legislation.

Mr. Campbell spoke of the value of advanced registration as a means of advancing the interests of the association in this part of the State. He advocated the value of an examining committee whose work shall be, at stated times to make tests, examine herds, and report to the secretary their findings, so that a local herd book may be kept and the performances of individual animals made a matter of record. Mr. Miller supported this suggestion and stated that advanced registration is now permitted by the American Jersey Cattle Club, when kept in two classes, "A" and "B". The association, after passing a vote of thanks to Prof. Major and the people of Buena Park for courtesies, adjourned to meet at Orange the second Tuesday in March, 1905. The meeting, while not largely attended, was very interesting.

Guy H. Miller, of Riverside, has presented the State Polytechnic Institute at San Luis Obispo with a young Jersey bull—Prof. Bruce King—son of officially tested cow Signora Bruce, as a starter for the Institute herd.

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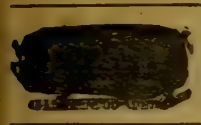

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Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
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Used by 80 per cent of vaccinating stockmen in California. Early vaccination is good insurance. Write for description of our Black Leg Pills and Injector for using them. They are safer and easier used than either the string or powder vaccine.
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If your druggist does not stock our vaccines, order direct from us, we pay all charges.

CLEANING TEST BOTTLES.

Those who have operated the Babcock test have experienced the difficulty of keeping the test bottles clean after they have been used some little time. C. B. Moak of the Minnesota Agricultural college says on this subject:

"In a glass or earthenware jar make up a solution of one part bicromate of potassium to twenty-five parts of sulphuric acid, and shake or stir well so as to dissolve the bicromate of potassium. As soon as the solution has turned slightly pinkish it is ready and may then be used or may stand indefinitely without injuring it except that it will weaken unless tightly corked.

"In using, only a small amount need be placed in each bottle, and in handling one should handle this with great care as it is apt to spatter.

"After adding, shake the bottle for some time so that the sides will have been completely washed, and then allow to stand for a short while, and then again shake. After the second shaking empty the solution back into the receptacle, as this can be used over and over again for the same purpose. After the bottle has been emptied rinse with water from three to five times, and then wipe dry with a cloth. After carefully using this cleaning solution upon any glassware you will find that it looks nearly as clean as when it first came from the manufacturer."

THE WASHING OF BUTTER.

Those who have made the subject of butter making a life study always wash butter with cold water, says Fannie M. Ward in the Epitomist. We think it best to add a little salt to the water used for washing. Butter that is inclined to be soft is certainly improved by washing with cold water—it makes it firmer. As Miss Hess says in the special dairy number, it is difficult to wash a lump of grease—so the right time to cleanse butter of the milk is before it is churned into a mass of grease. The churn should be stopped when the butter is in a granular condition. Then the buttermilk may be drained off and the butter evenly washed and salted without spoiling the grain. We consider it important to wash butter thoroughly with pure, clean cold water, keeping it up until the water coming from the butter ceases to have a milky appearance. However, the care of the cream beforehand is of more importance than washing, methods of salting, working, etc. There is no way to improve butter that is off flavor when it comes from the churn. Washing won't help it; bad butter soon becomes very bad, no matter how careful and cleanly it is packed.

CARROTS FOR HORSES.

John Williams, a reader of the Cultivator, urges the advisability of raising carrots on a large scale to feed horses. He says he has been experimenting on this vegetable for several seasons, feeding it to his horses, and that he has had excellent results therefrom. The value of carrots as a food for horses is not so well known and recognized as it should be. Four or five pounds of carrots may be fed daily to a working horse with decided advantage, and a limited quantity may be fed to road horses. They serve to keep the digestion in tone, and act very beneficially on the digestion of other food. Carrots are easily grown and every farmer should make a point of raising some for feeding purposes. We have frequently heard of the value of carrots for cattle when fed in small quantities and regularly with meal or bran. The best results are obtained when the carrots are cooked.

SALT THE BUTTER ENOUGH.

While in the office of a butter dealer this week, the writer was asked to urge the butter makers to salt their butter more. Many lots are too lightly salted to bring out the flavor, he said, and it would improve them from one to several points. Looking into this statement further by a visit to a number of other dealers, it was learned that the complaint was general—much of the butter was too light in salt. Therefore now proceed to be urged and see that the butter has enough salt in it—but first be sure whether you are among those who need the urging. It is worse yet to go too far the other way. You know how it is with beef stock when the cook forgets and puts on another handful to make sure, or how much is it they do use?—Chicago Dairy Produce.

REMARKABLE RECORD OF A JERSEY BULL.

The bull of the Jersey breed that leads all others in the number of tested daughters is Exile of St. Lambert. Ninety-four of these have made records of over fourteen pounds of butter a week. He is said to have been a bull of great vigor and vitality, and retained his vigor up to the very day he died, at 13 years of age. This bull had for a dam Allie of St. Lambert with a record of twenty-six pounds, twelve ounces of butter in seven days, and full sister to Ida of St. Lambert, with a test of over thirty pounds per week. He was exercised in the following manner: A good strong post was firmly fixed in the ground and stayed on four sides. Across this a strong pole of hickory about twelve feet long was attached by means of a swivel. Exile was secured to one end of it by a chain from his nose to the pole, which was weighted down at the other end to balance it. He took his exercise in a circle.

As prepotent a Jersey bull as there ever was is still alive in King of St. Lambert's King, owned by F. W. Hart of Cleveland, O. He was by King of St. Lambert, the sire of twenty-six tested cows, and out of his own daughter, Elsie Bonner. I never enjoyed a day much more than one spent looking over Mr. Hart's herd, and especially looking at this bull, his mother, and daughters, and last, but not least, a young bull showing vigor to spare, sired by King of St. Lambert's King, and out of his own dam.

Of the well known Guernsey bulls, Lily's Bonny Boy, owned by Mr. N. K. Fairbank, Lake Geneva, had 41 registered daughters, and 13 of these at least have made 343 pounds of fat in a year, and Lily Ella and Lilyta made in official tests 782 and 710 pounds of fat respectively. This bull was out of Lily of Fernwood, 22 pounds, 11½ ounces of butter in a week, and one of the best cows of the breed. He received his exercise by daily work in a tread power to run a separator.

The Guernsey bull having the second highest number of tested daughters was also owned in Wisconsin, and was Benjamin 1931. He had 25 registered daughters and nine of them have records ranging from 349 to 508 pounds of fat in a year, and ten of them have made weekly records ranging from 12.02 to 17.7 pounds of fat. He was exercised twice daily in the tread power, and proved a good sire until he was 9 years old. He was never as vigorous as some bulls, due, I think, to poor care when he was about a year old. His dam, Tricksey, was in 1888 first prize cow at the Wisconsin State fair, and made 2 pounds, 7¾ ounces of butter in one day. Mr. S. C. Kent, who imported over 1000 Guernseys, says she was the best cow he ever owned. —Chas. L. Thill.

DANGER TO THE HORSES.

"Do you mean to say you didn't give that horse-thief by jury?"

"We didn't dare," answered Bronco Bob. "If anything as unusual as a trial took place the whole town 'ud turn out to see it, and some one would be sure to sneak in and steal some more horses."—Washington Star.

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LEFFINGWELL RANCHO, WHITTIER, CAL.
Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the Island has ever produced."

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A handsome golden fawn yearling son of
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Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address
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ST. LAMBERTS—viz., St. Lamberts Lady Jane, Kings Hettie of St. Lambert, St. Lamberts Mary Ann C. Melia Ann Hall, Melia's Easter Lily, Melia Ann's Ruie.
ISLAND-BRED JERSEYS—viz., Owl's Golden Belle, Golden King's Eloise. Imported Sultane's Golden Fern, service bull.
All are registered in A. J. C. C. records. More are on way to this herd.
A. B. WHITE
Los Angeles Co., Palms P. O., Cal.

OAKHURST JERSEYS
PROPERTY OF L. L. BRADBURY, ESQ.
SONS OF **Imported Golden Marquis,** FOR SALE
ALSO
MELIA ANN'S LAD and a YOUNG TORMENTOR BULL
The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
James Houston - Duarte, Cal.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

NATIVE PALMS.

G. E. P., Pomona: California has but one native palm—the U. S. has seven—names and ranges as follows: Royal palm (Oreodoxa regia) which is found in southern Florida, and also in the West Indies and Central America. This palm is too tender for any but the warmest spots in our State and even then our climate is too dry for its perfect development.

The Sargent palm (Pseudophoenix Sargentii), is a very rare palm from the southern Florida Keys, and is said to have little horticultural value—we have never seen a specimen, so cannot tell if it would thrive here, but probably not.

The Mexican palmetto (Sabal Mexicana) extends quite a distance into southwestern Texas. It is quite hardy and grows well with us, but very, very slowly.

The Cabbage palmetto (Sabal palmetto) of the south grows along the Atlantic coast from North Carolina to Florida, in which State it also grows on the Gulf coast. It is perfectly hardy in California, but grows slowly under any method of treatment.

The Silvertop palmetto (Thrinax microcarpa) and the Silktop palmetto (T. parviflora) are both from the southern Florida Keys and do not seem to be at home with us. Our climate is too cool and dry, no doubt.

Washingtonia filifera is the scientific name of the California Fan palm which is so extensively planted all over the State. Its range is that part of the Colorado desert lying between San Bernardino and Yuma. The first ones encountered in a trip eastward over the S. P. R. R. is near the station of Seven Palms, though great numbers may be found in the Palm, Andreas and other canyons near Palm Springs. This palm is known to do well in its native State, but like all others, it thrives best when well supplied with water. The U. S. Government botanists have given this the hideous name of Neowashingtonia, but other botanists seem to take no notice of it, for which all patriots, especially Californians, should be thankful.

The Public Roadways.—The temptation to say something occasionally about public roadway improvements is too strong to resist. It may be considered by some a hackneyed and threadbare theme, but that does not detract from its importance, nor deter the journalists and magazine writers from hammering away until the public mind shall be fully aroused to the necessity of taking some definite action. Not only have the press become active again in the discussion of this matter, but the governors of many of the States have recently embodied strong recommendations in their messages favoring legislative aid in the improvement of the country roads. Every county should have a "Good Roads Association," or "Highway Improvement Club," for the purpose of promoting the work of road building. The State Road Association of Illinois was instrumental in having the present road and drainage law of that State enacted. As one of the beneficial results of the enforcement of that law, land values have doubled, because the farmer can now reach the shipping points easily and readily at such times as he may choose to sell. He can take advantage of the market when it is best for him, regardless of the weather. He is saved much time, much wear and tear of wagon, team and patience. Good roads broaden the way to a better development of the country and tends to relieve the congestion of the centers of population. Good roads lead people out of the cities. They make the country more populous and more popular.

Mr. Brownlow, of Tennessee, has had a bill before Congress for some length of time, which provides for aid by national legislation. It provides for an appropriation of several millions of dollars, but the expenditure could not be better applied and the source it comes from will serve to knit the ties of the Union more firmly if possible. It is the best form of public beneficence that has been suggested. All California should urge our representatives and senators to support the measure, and should also prevail upon our State Legislature to make provision for an amount of money corresponding with our pro rata share from the Federal Government, to be used for the construction and maintenance of good roads.

Small Packages In Favor.—The steady advance in popularity of the apple box over the barrel is the subject of a timely discussion in the Chicago Packer on the evolution going on in the ranks of consumers. As the Packer forsees the future, the barrel will have to go, and in its place will come the box with its convenience in handling and its freedom from unsanitary conditions. In another decade the barrel will seldom be seen as an apple package. This may sound radical, but viewed from an unprejudiced, disinterested position the change is practically a foregone conclusion. Even apple packers, the hardest element of all to convert, will not submit continuously for several seasons to what they had to face the past fall in western New York, where apple barrels were held at times as high as 40 to 50 cents. At many points local coopers "held up" packers for 55 to 65 cents. At such prices the use of barrels become false economy when the standard box can be had for 12 to 15 cents.

Not only were the apple men caught by the barrel shortage, but the cranberry men as well. This was marked in the Jersey cranberry deal where at times barrels were to be had only at famine prices. Thousands of boxes were packed and shipped to the large markets where they were assorted and repacked in barrels.

* * *

Continuing the discussion as to the availability of the apple box as a package for shipment, the Packer says: "The use of the box package for apples is rapidly growing, as one can see at a glance in any large fruit house today. Where nothing but barrelled fruit was shown a few years ago, a box package being practically unknown except in California fruit, today long tiers of boxes with their lids thrown back showing from 24 to 36 in the top layer are a common sight. The fruit salesman will tell you that it is far easier to sell 50 boxes of fancy goods than the same quantity in barrels. Where the retail grocer is practically the only customer for the barrelled goods, the consumer himself is now being seen in the wholesale district. A box of apples is not beyond his pocketbook, he has been educated up on oranges by the box and takes to apples like a duck to water, especially if the fruit is fine and of regular size. He will balk on a barrel of Jamaica oranges but will take a box, a barrel of apples he will never consider."

There is a suggestion in this connection which it will be well to bear in mind; the nearer the original packages can be made of the same size, which will sell as it comes to the grocer and the consumer in turn, the more rapid will be the distribution of any product.

Herein lies the secret of the success of the small package movement. What applies to staple products still more forcibly rules in the matter of perishables. Experience has proven the utility of the small package. Wherever it has been exploited it has won its way. It is, as the Packer well says, "a time saver, a labor saver and in the end bound to win."

Hollywood Rose Co.
J. L. DUNSCOMB, MGR.
PROSPECT PARK P. O., CAL.
—ROSE BUSHES EXCLUSIVELY—
If you want the best in rose bushes, go to the specialist who does one thing well. We grow and handle only such roses as do best in this climate. All bushes sold are sturdy, vigorous thoroughly dormant, and will bloom within a few months.
PRICES
No. 1 size, 30 inches high, 50c each, $4.50 per doz
No. 2 size, 24 inches high, 35c each, $3.50 per doz

LIVE OAKS
STERCULIAS ACACIAS
and other Shade and Ornamental Trees.
Ferns, Palms and Decorative Plants.
Choice Flower, Garden and Tree Seeds.
Theodore Payne
SUCCESSOR TO HUGH EVANS
NURSERYMAN AND SEEDSMAN
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California Nursery Co.
NILES, CAL.
We have all you want for your Orchard, Vineyard, Street, Roadside and Garden. March is the month to plant
SEMI-TROPICAL FRUITS
Oranges, Lemons, Figs and Olives
CONIFEROUS and BROAD-LEAVED EVERGREENS
18 varieties Acacia, 23 Eucalyptus. A large assortment to select from.
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SEED POTATOES
500,000 BUSHELS FOR SALE CHEAP
Largest seed potato growers in the world!
Elegant stock. Tremendous yields. From 400 to 1000 bushels per acre.
FOR 10 CENTS
and this notice we send you lots of farm seed samples and big catalogue, telling all about Teosinte, Speltz, Peaoat, Aerid Land Barley, Macaroni Wheat, Bromus, Earliest Cane, etc. Send for same today.
JOHN A. SALZER.
SEED CO. LA CROSSE, WIS.

ORANGE PLANTS
Seed Bed Stock, clean, thrifty and well rooted
J. M. CARSE
Wilson Ave. - Alhambra, Cal.

JURUPA NURSERY CO.
Growers of Deciduous, Citrus and Ornamental Trees and Vines
THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
SEND FOR PRICE LIST AND CATALOGUE
Jurupa Nursery Co. Riverside, Cal.

Our Sales in 1903 Over 3,000,000
Try Them—We Guarantee Satisfaction

Price Standard Size, $17.50 per M.
A cheap, effectual and permanent method of propping trees
Cheaper than driving staples in the limb, and no possible damage to tree.
Cheaper than boiling rope, because permanent.
Samples Free to Orchardists
Hoyt Tree Support Co.
WATSONVILLE, CAL,
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TREES
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TRUMBULL & BEEBE Seedsmen and Nurserymen SAN FRANCISCO, CAL.

Established 1865. The Oldest in the State.
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Located in the Fertile Pajaro Valley. Large stock of Apple, Pear, Apricot, Peach, Plum, Prune, Cherry and Nectarine Trees. Apple Trees on resistant roots.
Nut Trees, Shade Trees, Palms, Small Fruits, Roses, etc. Introducer of the Loganberry and Mammoth Blackberry. Originator and introducer of the Linda Strawberry.
If you want unirrigated California grown trees—best for our dry climate—we have them.
Send for Catalogue and Price List
JAMES WATERS, Prop. Watsonville, Cal.

THE FUN AROUND A FARM.

Let others grieve, as grieve they will, the
lonely lot and solemn,
Monotonous existence that a farmer has
to live.
And funny scribblers fashion stories, col-
umn after column,
Upon the round of lonely life the home-
stead has to give.
I'll still believe, in spite of these, there's
happy days and cheering,
To occupy a fellow's thoughts and keep
him out of harm,
And backed I am in this belief by memories
endearing—
There's lots of sunshine here and there,
and fun around a farm.

If rumor you would appreciate you must not
be dyspeptic,
Your liver needs must well perform its
functions every day,
It must not ever enter opposition diamet-
ric
To your enjoying happy things that chance
to come your way.
And since there's so much gout in town
and chronic stomach trouble,
And long-drawn faces quite enough to
summon up alarm,
I cannot help but say, although I prick
some writer's bubble
There's more of sunshine here and there,
and fun around a farm.

The height of fun is measured by our
powers of enjoyment,
I say, and healthy livers set that measure
pretty high!
A hearty laugh's for vocal chords a mighty
good employment,
A lively tune's the best of things to time
one's labors by;
There's too much of stooping over desks and
counters in the city,
There's too much hollowness of chest and
flabbiness of arm,
Too little joy—too much of close air and
stuffy—more's the pity;
While, oh, there's sunshine everywhere,
and fun around a farm.—Roy Farrell
Greene.

A NATURAL MISTAKE.

Really, Gifford was not at all to blame for it. Anybody might have made the same mistake. Gifford was short and fat and new to the big woods. He had been in camp a week and had spent most of the time lying in a hammock and reading a novel while the other men tramped the trails and rowed through Eagle creek to Vir-gin or Lake Julia. Everybody said that Gifford was too fat and lazy ever to make a woodsman.

But that was before Miss Shurtleff and her mother came to the camp. They had a log cabin next to the big cook shack, and it was announced that Mr. Shurtleff would come to join them later. The young woman was tall and athletic looking, full of life and eager to see and do all there was to be seen or done within twenty miles of Big Lake.

Perhaps it was intentional—at any rate Gifford got mixed up in the introductions. But that was nothing against him. Anybody might easily have made the same mistake.

Gifford fell desperately in love with the younger of the two women at first sight. And his new love transformed him. He became all at once the most enthusiastic oarsman and wood tramper of the party. It made a hero of him. What would have terrified him before he now gladly undertook.

One evening, when everybody in camp was sitting under the birch trees watching the sunset, a curious animal as large as a small dog ran shambling down in front of the shack and tried to hide under a pile of logs. Gifford and Gifford's Irish terrier, both entirely new to the woods, were up and after it in a minute.

"O, what in the world is it?" cried Miss Shurtleff. "Do you suppose that it is dangerous?"

Gifford would show her he knew not the meaning of fear. He ran directly toward the beast, which, badly frightened as it was, made but poor progress over the sand.

Gifford's dog was even before him. It attacked the animal with open mouth. But it made but one bite and then began to roll over and over, yelping with agony. "Look out!" called one of the guides. "It's a porky hog. Better not touch it."

But with Miss Shurtleff looking on Gifford would have attacked a raging lion. He raised a club he had picked up from the ground in his right hand, and with the other grasped the beast by the back. But, like the dog, he did not keep his hold. His hand felt as if it were full of hot needles, and from his heroic lips came a groan of pain.

But even that was worth while, for his sufferings called such expressions of tender sympathy from the red lips of his divinity that Gifford would gladly have embraced another porcupine. Tommy, the guide, pulled barber quills out of Gifford, who bore the pain like a Spartan and then performed a similar operation on the dog, which, for the remainder of its stay in the woods, absolutely refused to go within reaching distance of anything that had life.

Doubtless Gifford would have discovered his mistake earlier if the two women had not persisted in always remaining together. Doubtless also there was a conspiracy to keep him in ignorance of his mistake, though no one believes that Miss Shurtleff or Mrs. Shurtleff was a party to it. And the fact that two women called each other by their first names—Anne and Julia—prevented his making the discovery in that way.

With his left hand done up in a bandage to soothe the pain of the porcupine quills Gifford became more than ever the slave of the young woman. She, on her part, was kind enough to him, though she seemed anxious that he should pay attention to the older lady rather than to her. And Gifford obeyed her commands and waited on the ancient person assiduously. Once the old lady announced that she would like to drink some milk, fresh and warm from the milking, and Gifford, at a look from Miss Shurtleff, volunteered to get up every morning at four o'clock, when Tommy milked, and get the milk for her. That was heroic, for Gifford liked better than most men to lie abed late in the morning.

Every day, when he could persuade them to go, Gifford took the two women out rowing or fishing or exploring. Before they came to camp he had been too lazy to go out on the water unless Tommy pushed the boat, but now he was always ready to row a boat containing both Miss Shurtleff and her mother any number of weary miles, while Tommy, with a smile hidden under his brown mustache, came skimming along behind, with nothing but the lunch basket in his skiff.

When you consider that Gifford's arms were short and thick, that his wind was bad and his hands tender, and he had never done rowing before that summer, you may begin to realize the power of love. Big blood blisters came on the palms of Gifford's pudgy hands, and he suffered almost continually from pains in his back and legs, but not for a moment did he ever think of giving up the battle. Miss Shurtleff expressed an admiration for water lilies; Gifford waded out in ten inches of water and two feet of mud to get them, greatly to the damage of his footgear and trousers. Miss Shurtleff casually remarked that the great hairy woodpecker must be a curious looking bird; Gifford, fat and round, climbed a forty-foot pine stump, and took a young bird out of its nests to show her. Incidentally the stump broke as he was coming down and Gifford fell into the creek. Fortunately the creek bottom was good and soft.

The climax came on Saturday. Tommy, the guide, precipitated matters the night before.

"Mr. Shurtleff is coming Sunday morning," he said.

Gifford started as if he had been shot. In the more than two week's which had passed since Miss Shurtleff came to the camp he had never once had an opportunity to speak with her alone. And now her father was coming. For some reason Gifford felt much afraid of Mr. Shurtleff, though he had never seen him. He was anxious to reach some sort of an understanding with the daughter before the old man put in an appearance. Only one day remained in which to make the attempt. Gifford's back ached and his arms were sore; his hands were one mass of blisters and his legs pained him at every step. But he was game.

"What do you say to a little row down to Big Dog lake?" he asked airily that Friday evening after supper. Big Dog lake was a good twelve miles to the south. Altogether the trip meant a row of twenty-five miles.

"I'd like to go," said Miss Shurtleff, "but it's a terribly long row."

"Not at all," said Gifford, and Tommy, the guide, retired to the porch and laughed noiselessly, with one hand over his mouth.

"I'll take you in my boat," said Gifford desperately, "and—"

"No," interrupted the young woman, "I think we'd better go together. We can both go in Tommy's boat and you can—"

"Not at all," said Gifford; "I will row you both, of course, if you prefer to go together."

They started at five o'clock in the morning. Gifford felt sure he should faint before they covered the first five miles. But he gritted his teeth and kept on, though every stroke was agony. He had laid out his plan of campaign. He would wait until they landed for luncheon, and then make an opportunity to speak to the young woman alone.

Luncheon time came. Gifford ate almost nothing. When they had finished their coffee he started to walk back into the woods. Presently there came the sound of a cry.

"Come here quick," Gifford was calling. Tommy, the guide, must have been posted beforehand. At any rate he did not move. But the young woman was up in an instant, running back through the wood's trail as lightly as a fawn. The old party sat still on her cushion—which was as Gifford had expected.

Gifford wasted no time.

"Miss Shurtleff," he began abruptly, "I love you and I made this chance to tell you so."

"What?" said the startled young woman.

"Miss Shurtleff, I love you," again declared the red-faced Gifford. And

(Continued on Page 263.)

Nobby
Sack Suits

The new loose-cut sacks, designed for men who want to keep a little ahead of the procession, are either very swell or the reverse—depends on how they're tailored.
Ours will bear the most critical inspection of men who have the custom-tailor habit—the quality of the cloths, the character of the cut, the careful, painstaking tailoring are above reproach.

$15 to $37.50

London Clothing Co.
HARRIS & FRANK
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LOG BOOK JOTTINGS

Nowhere in my travels have I found such comfort, courteous treatment and superb dining-car service as on The California Limited.

ARTHUR LETTS,
Of Broadway Department Store,
Los Angeles.

Everything that conduces to the enjoyment and comfort of the traveler is provided on The California Limited. Have enjoyed the trip amazingly.

HOMER H. PETERS,
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CHICAGO -	$33.00
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And many others at proportionate rates. Ask Santa Fe agents for full particulars

The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART II.

In last issue we told about C. H. Purvine's poultry farm and the thousands and thousands of young chicks that Mr. Purvine is raising on Coulson's Chick Food. Also about the mammoth incubators that just hatched out 6000 more chicks that will be raised on Coulson's Chick Food and all these incubators and some others are filled again and about the middle of March will bring out about 13,000 or 14,000 chicks at one hatch.

After leaving Purvine's place, as we were driving along the road, we overtook a man with a six-horse load of Coulson's Food. (See illustration.) We asked the teamster where he was going with that big load and he said he had on 70 sacks of Coulson's Food, 35 sacks of Coulson's Little Chick Feed, and 35 sacks of Coulson's Egg Food for the hens, and he was going to Wm. Bassett & Co.'s poultry farm and that they got a load like this every three or four weeks.

As Mr. Bassett's place was only about one-half mile ahead from there, we concluded we would like to stop and see Mr. Bassett, so we drove in. Although it was after one o'clock when we got there, Mr. Bassett insisted upon us having a lunch and set before us a dinner fit for a king, which we ate with great relish, especially the cream and butter, for Mr. Bassett has a fine creamery and they milk 90 cows.

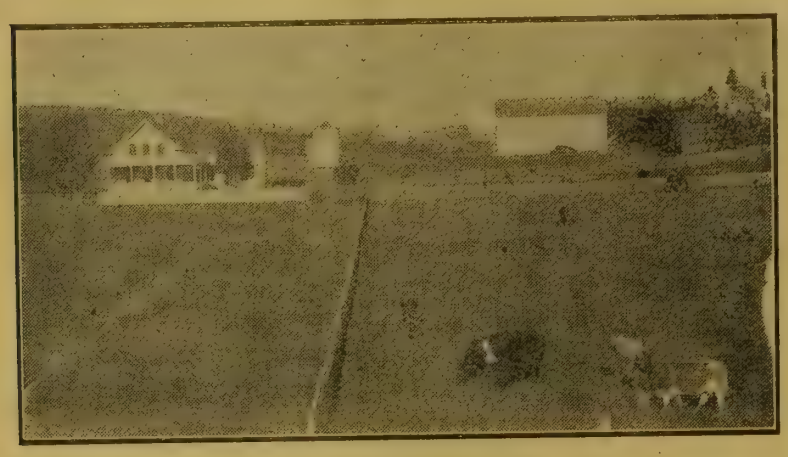
After lunch Mr. Bassett took us out and showed us ten brooder houses and yards containing all told about 6000 little chicks that he was raising on COULSON'S CHICK FEED, and he said they consumed about 1½ sacks a day of it; that COULSON'S CHICK FOOD was the BEST FOOD for little chicks; that they thrived well on it and kept strong and healthy.

About 2000 of these little fellows were only about three days old and the rest about one week old, and they were certainly a spry, healthy looking lot of chicks and you ought to see them eat Coulson's Chick Food.

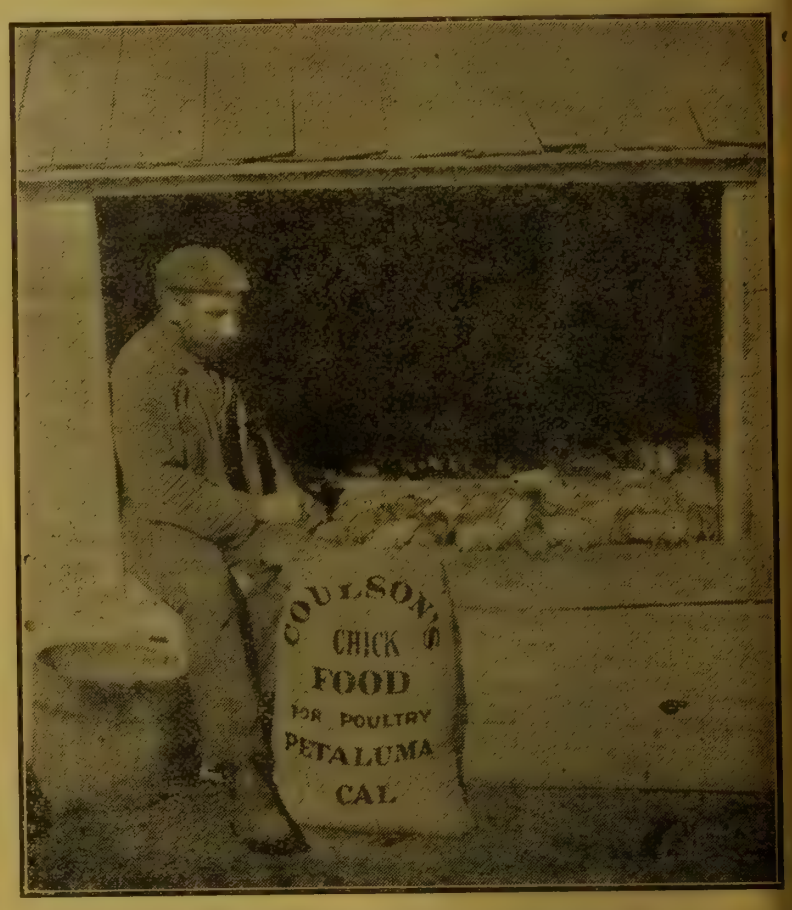
Then Mr. Bassett showed us the incubator house containing incubator holding about 3000 eggs which would hatch out in about two weeks a couple thousand or more chicks that would be fed on Coulson's Chick Food the same as the rest of the little chicks.

After this we took a walk over a couple of hundred acre of land looking at some of their fine White Leghorn hens. These hens are kept in colonies of from 300 to 500 hens, and 2 or 3 acres run are given each colony. Altogether they have nearly 3000 laying hens, and they consume about 2 sacks of Coulson's Balanced Ration Egg Food to a meal and they lay from 1200 to 1500 eggs a day.

Now, this dairy and poultry farm is 14 miles from Petaluma and contains a little over 300 acres of land and is owned by Wm. Bassett. Wm. Bassett's nephew, whose name is also Wm. Bassett, has one-half interest in the poultry which they have been raising for the past 6 years and so profitable has it proven that the younger Mr. Bassett has purchased for himself a fine place of 100 acres which he will stock with poultry and make a modern up-



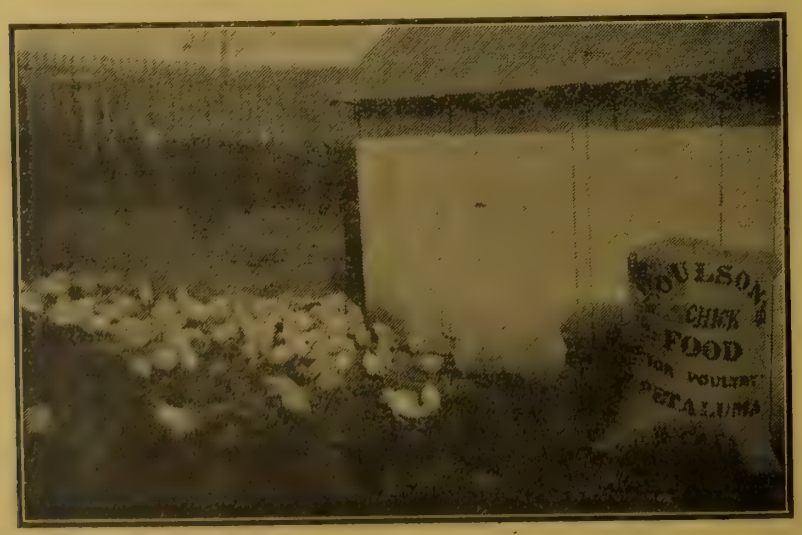
Birdseye View of Wm. Bassett's Residence.



A Window that slides open in the side of brooder house; 600 little chicks in the house. Mr. Bassett, Jr., feeding them Coulson's Chick Food. Notice how busy they are eating it; some of them go right into the sack and help themselves.

Scene on the Road 14 Miles from Petaluma. A Six-Horse Load of Coulson's Food, (35 Sacks of Coulson's Chick Food for Little Chicks and 35 Sacks Coulson's Egg Food for Hens), about Three and One-half Tons Going to Wm. Bassett's Poultry Farm.

Another brooder house containing 500 little chicks about 1 week old. See them eating Coulson's Chick Food. On Wm. Bassett's pla



One Lot of Brooder Chicks Eating Coulson's Chick Food on Mr. Wm. Bassett's Place.

Six Weeks Old; $3.75 a Dozen

Mr. Bassett sold 600 roosters SIX WEEKS OLD that were raised on Coulson's Chick Food for $3.75 per dozen. It is wonderful how Coulson's Chick Food makes chicks grow.

Scene on Wm. Bassett's 300-Acre Poultry Farm. The Hens are Kept in Colonies of from 400 to 500 and a Run of 2 or 3 Acres is Given Each Colony.

ate poultry farm.

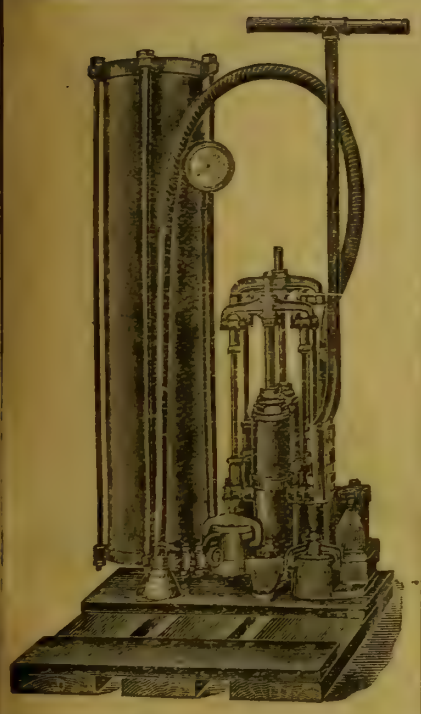
The moral of this story is, if you re raising any poultry, you want to o like the larger and successful poulrymen; raise your little chicks on 'OULSON'S CHICK FOOD and feed he laying hens on COULSON'S EGG 'OOD and you will have success and ake more money out of your poultry.

Remember an egg contains 16 per ent protein while wheat and corn and ill feed contain only 10 per cent, consequently the hen has to eat double the amount of feed to get the other 6 per cent protein. Coulson's Egg Food contains as much protein as an egg contains, so by feeding Coulson's Egg Food you get more eggs with less feed.

Ask your feed dealer or send to factory.

A. R. COULSON.

The next issue of this paper will show an 800 acre poultry farm where Coulson's food is bought by the carload, "and chickens"—A FEW!



SAY!

Are your trees covered with moss or scale so that they can't get a healthy growth? You are sure to have small fruit from unhealthy trees. Instead of 6 per cent you will make 300 per cent on the money invested in a thorough spraying of your trees. But if you use a cheap squirt gun pump you may as well pour the material on the ground and save your time. Use a good pump and do a thorough job and you will get results all right. Our

BEAN TORRENT

is the pump to buy. We haven't space to tell about it here, but send for circular giving full description of all our goods. We can also send you a book of formulas free. Did you ever try a Bean Clipper Nozzle? Address a postal at once to

BEAN SPRAY PUMP CO.
SAN JOSE, CAL.

BAKER'S

TRACELESS HARNESS

No Whiffletrees—No Traces

This harness is indispensable to every fruit grower—vineyardist or orchardist. Saves time, labor and patience. Pays for itself many times over every season in the saving of injury to trees and vines and damage to growing fruit, which always occurs from the use of ordinary whiffletrees and traces. One of the handiest of farm equipments.

We have hundreds of testimonials from every State, like the following:

Sunland, Cal., December 27, 1902.

SIRS: In regard to the Baker Traceless Harness which I purchased from you, I wish to state that when using it on the team among my trees, I know of no improvement which can be made on the outfit unless I cut the legs off the horses. It is impossible to injure the trees or fruit while using it.

Yours well satisfied, T. G. CUSHMAN.

Sebastopol, Cal., March 29, 1902.

DEAR SIRS: Your harness is all you represent it to be in every particular We judge it a big success for plowing vineyard and orchard.

Yours very truly, C. D. HAMILTON

Don't delay—write us to-day for illustrated catalogue of this valuable harness, mailed free for the asking. Live agents wanted everywhere.

HOOKER & COMPANY, 16-18 Drumm St., San Francisco, Cal.
Sole Agents For California.

Los Angeles Markets.

Los Angeles, March 10, 1904.

The local market has shown but few variations during the last week. The city dealers, generally, are quite well satisfied as to the outlook for supplies during the coming season. Provisions in nearly all lines are freely offered. Demand is good at the following quotations:

Butter.

Butter suffered a decline of 10c per 2-lb. block as a result of the last Creamery Board of Trade meeting, There is a still lower tendency due to the increasing supply at the producing centers. Just how long these conditions will prevail, is due largely to weather and the outlook for pasturage.

B. of T. Cream', 2-lb roll		60
So. Cal. Dairy, do	50	52½
Cold storage	42½	45
Cooking, per lb	18	19

Cheese.

The storage supply is large and on account of decline of butter, a lower quotation is expected.

Cal. and 3 lb. hand	18
Cal. Downey and Anchor	17
Swiss	19
Imported do	28

Eggs.

There has been a still further decline of 2 cents per dozen on fresh ranch eggs, being quoted at 17 cents flat.

Fresh ranch	16	17
Store, case count		15

Poultry.

Poultry is still reported very scarce, by the local dealers, there being but few offerings at these high prices. This is the time of the year when there is money in the production of eggs. There is a fair supply of eastern stocks on hand which are in good demand, and it is thought that the trade will be satisfied until the young poultry becomes more abundant.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	20	22
Turkeys, cold storage	22	23

Live Stock.

Prices remain firm at last week's quotations. Best beeves are in very good demand.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Heifers, cwt	3 00	3 75
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Potatoes are holding firm at last week's prices. Seeds are quite scarce, especially Early Rose. It is reported that the new crop will be very late.

River, per cwt	1 60
Oregon, do	1 75
Local Sweets, white	3 00
Early Rose seed	2 25
Pinkeye, do	1 60
Nevada Pearls, do	1 60

Vegetables; Mixed.

Notwithstanding the fine conditions of the new crop, the prices quoted are held firm. The supply is abundant and of a very good quality. The demand is cleaning up most of the supplies in a satisfactory manner. The local dealers have been notified that the new California Rhubarb Association will handle the entire output for this season. The opening price will be $2.50 for forty-pound boxes. All the rhubarb is practically grown in a radius of about ten miles of San Lorenzo, consequently local dealers will have to sell at 2.75. It is felt that the consumption will be limited at these figures.

Onions, yellow per cwt	2 50	3 00
Nevada, fancy do		3 00
Beets, per 100 lbs		1 25
Cabbages, do		1 25
Green peas	03	05
Lettuce, per sack		40
Tomatoes, 25 lb crate		2 00
Celery	35	40
Hubbard squash, per ton		15 00
Carrots, per sack		90
Chiles, string		75
Cauliflower, per doz		40

CITRUS FRUITS; FRESH

The prices on citrus fruits remain steady. Many oranges of inferior quality are being offered to the trade. However, good stocks are held firm at last week's quotations.

Fancy, 126s, per box	2 00	
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 50	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs.	1 00	1 50
Strawberries	12	20
Loquats		05

Fruits; Dried.

There is practically no interest shown in dried fruits. Market steady at the following prices:

Apples, evaporated	06	07½
Apricots	08	10
Peaches	06	08
Raisins, per box		3 00
Raisins, loose	07	08½
Prunes	03	06
Pears		12

Beans, Dried.

Beans are selling well, particularly the large varieties.

Pink	3 75	3 80
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 40	3 60
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½

Hay and Grain.

Hay has taken a firmer tone during the past week, there being but few small lots offered. The continued scarcity of rain has again had a tendency to slacken the movement and unless there is rain within the next few days, to insure the farmers of a new crop, it is thought that the prices will retain the former high mark and even go higher. The late hot winds have damaged the crop quite materially.

Grain will no doubt hold firmer in sympathy with other feeds. Prices range as follows:

Alfalfa		15 00
Tame oat	15 00	16 00
Barley hay	15 00	16 00
Wheat hay	15 00	16 00
Wheat	1 35	1 45
Barley	1 12½	1 15
Oats	1 25	1 35
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, March 10.

Dairy.

Receipts of butter show increase and the outlook is favorable to further heavy shipping, but as only a small percentage of the arrivals scored in the strictly fancy grade, values for this quality were well sustained and holders of the favored marks were firm in their demand for the outside quotation.

BUTTER—Per lb:
Creamery, extras .....22½@23
Creamery, good to fancy .....21 @22
Dairy, extra .....19 @20
Dairy, choice .....17 @18
Store .....Nominal
California Storage .....Nominal
Eastern Creamery .....Nominal
CHEESE—Per lb:
Cal. Creamery, mild new, extra 12
Cal. Creamery, mild new, choice.10 @11
Young America .....11 @12½
Eastern, New York Cream, Cheddars and flats, new 15 16

The supply of eggs is daily heavier and values are consequently easier.

Eggs and Poultry.

EGGS—Per doz:
Ranch, selected large .....17 @17½
Ranch, good to choice .....15 @16
Store .....14 @15
California Storage .....Nominal
Eastern .....Nominal

Poultry runs light this week and prices remain firm. Some variation from last week's quotations are noted.

POULTRY—Old Roosters, per doz., $5@5.50; young Roosters, $6.50@7.50; Fryers, $5.50@6.50; Broilers, large, $5@5.50; small, $4.50@5; Hens, small, $5@6; large, $6.50@7; Ducks, per doz., old, $5.50@6.50; young, $6.50@7; Live Turkeys, per lb., 16@18c; Dressed Turkeys, per lb., 20@22c; Geese, per pair, $2@2.25; Goslings, $2@2.25; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.25@2.50

Fruits and Vegetables.

The heavy rains of the past two days caused oranges to suffer to some extent. The market, however, for choice and standard Navels exhibited a steady undertone at sustained prices and with the ceasing of the rain a fairly active movement was noted for local accounts. Retailers took the better quality offerings, which are now running to a high score, while the lower class stock was well cared for by peddlers.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 50c@$1.25; fancy, $1.50@1.75.

CITRUS FRUITS.—Per box: Oranges, Navels, fancy, $1.50@2.25; choice, $1@1.50; standard, 75c@1.25; acording to size; Seedlings, 50@90c; Lemons, $1@2.75; extra, $3; Grape Fruit, $1@2.50; Tangerines, 75c@1.25; Limes, $6@6.50.

VEGETABLES—Asparagus, per lb., extra, 12½@15c; No. 1, 9@10c; No. 2, 6@8c; Tomatoes, per box or crate, southern, 75c@$1.50; do, Mexican, $1@1.50; Rhubarb, per lb., 6@8c; Green Peppers, per lb., 15@25c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 10@15c; Wax, —; Green peas, per lb., Bay, 6@8c; do, southern, 4@6c; Egg Plant, per lb., 20@25c; Summer Squash, per box, $1@1.25; Cucumbers, hothouse, per doz, 75c@$1.25; Mushrooms, per lb., 10@20c; Garlic, per lb., 5@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at 2@3½c per lb.

POTATOES—Per ctl: River Burbanks, $1.05@1.15; Early Rose, $1.25@1.35; River Reds, $1@1.10; Garnet Chile, $1@1.10; Salinas and Lompoc Burbanks, nominal; Oregon Burbanks, $1.20@1.40; Nevada, $1.40; Petaluma and Tomales, $1.10@1.20; Sweet Potatoes, $2.65; New Potatoes, per lb., 2½@3c.

Hops.

The price for new crop is 25@30c per lb, according to quality.

Beans.

No change to speak of in prices of beans. The market is slow and holders manifest little interest in parting with their stock.

BEANS—Prices, per ctl: Large Whites, $2.65@2.80; small do, $3@3.25; Pea, $3@3.25; Lima, $3.30@3.40; Red, $4@5; Pink, $3.20@3.40; Bayo, $2.50@2.60; Blackeyes, $2.05@2.25; Kidneys, $4.75@5.

Live Stock.

Hogs are in sharp request and with available supplies barely adequate to trade wants, the market is stronger and higher prices are quoted for the hard grain-fed offerings of desirable weights. Cattle are also in strong demand and keep well cleaned up at full current rates. Other live stock is as last quoted with the movement of good volume and the market displaying a firm undertone.

CATTLE—No. 1 Native Steers, 9@9½c; second quality, 8@8½c; thing Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4@5½c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4¾@5½c, gross weight; heavy, 4@4½c, gross weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs., and over, 5¾@6c; weighing under 130 lbs., 5½@5¾c; weighing 250 to 300 lbs. 5@5½c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $16@18.00; Wheat and Oat, $15@17; Oat, $15@17.50; Barley, nominal; Clover, $13@14.50; Alfalfa, $13@14; Stock, nominal.

STRAW—Good to choice, per bale, 60@75c.

OIL CAKE MEAL—In lots of 20 tons, $29.50.

CRACKED CORN—Choice quality, per ton, $29@30.

FEED CORN MEAL—Choice grades, per ton, $29.50@30.

GROUND BARLEY—Per ton, $23@24.50.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $23.50; less quantity, $24. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 Shipping, per ctl., $1.38¾, choice, $1.41¼; White Milling, good to choice, $1.43¾@1.55.

BARLEY—Choice No. 1 Feed, $1.06¼@1.10; off grades, $1.03¾@1.05; Brewing, No. 1, $1.11¼@1.20; Chevalier, nominal at $1.20@1.40.

CORN—Good to choice, per ctl; California, new, large Yellow, $1.37½@1.45; small do nominal; White, $1.37½@1.45; Eastern, $1.30@1.40.

CRACKED CORN—Choice quality, per ton, $29@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

WOOL.

There is no material change in wool.

Fall clip, per lb: California Plains, 6@8c; Foothills, 8@10c; Middle Country, 10c@12c; San Joaquin Lambs, 8@10c; Northern free, 11@12c; do, defective, 9@10c; Humboldt and Mendocino, 11@13c; Nevadan, 10@13c; Oregon, Valley, spring, 17@18c; Eastern, do, 10@14c.

Eastern Markets.

Grain and Produce.

CHICAGO, March 9.—Comparatively firm English markets, notwithstanding the weakness in Chicago yesterday, caused wheat here to open with a considerable show of strength. May was ¼ to ¾ higher, at 92@92½, and July was up ½ to ⅝ at 88½@88¾. These were the top figures of the day. Prices were sustained for a time near the level by a prediction of a cold wave extending as far south as Nebraska. After the first installment of buying orders had been filed, however, the market began to sag gradually. The downward tendency was accelerated by the extreme weakness which developed in coarse grains under heavy liquidation. The market rallied under a fair commision-house demand, and shorts covered freely, forcing up the price of May and July to about the top figures.

Cash quotations were as follows: Flour was quiet and weak; No. 2 spring wheat, 88@92; No. 3, 82@92; No. 2 red, 93@97; No. 2 corn, 49@50; No. 2 yellow, 50; No. 2 oats, 39¾@39¾; No. 3 white, 39¾@42½; No. 2 rye, 60@62; good feeding barley, 38@40; fair to choice malting, 45@55; No. 1 flax seed, 1.08; No. 1 Northwestern, 1.14; prime timothy seed, 3.00; mess pork, per bbl., 13.15@13.87½; lard, per 100 lbs., 7.10@7.15; short ribs, sides (loose), $6.87½@7.12½; short clear sides (boxed), $7.15@7.50; clover, contract grade, 11.65.

DAIRY MARKET.

On the Produce Exchange today the butter market was quiet and easy; creamery, 14@23½; dairy, 13½@21; eggs, steady, 17@19½; cheese, steady, 10½@11½.

Dried Fruits, Nuts, Etc.

NEW YORK, March 9.—The market for evaporated apples is firmer, with demand good, and holders inclined to ask higher prices; common, 4@5¼; prime, 5¾; choice, 6@6½; and fancy at 7. Prunes appear to be meeting a little better demand, and rule steady at from 3½@6½, according to grade. Apricots are in limited supply, both here and on the Coast, and are firm; choice, 9¾@10; extra choice, 10½@10¾; fancy, 12@15. Peaches firm; choice, 7¼@7½; extra choice, 7¾@8¼; fancy, 9@10.

CITRUS MARKETS

The orange market has shown stronger tendencies this week, owing, in part, to improvement in the weather. A better tone pervades the eastern orange market as a whole and the outlok is better than for some days back. Florida oranges are about gone. For fruit is cleaning up rapidly and the general feeling is that an improved market is in sight.

AUCTIONS.

NEW YORK, March 2.
Riverside Frt. Exc. La Mesa Navels, $1.70.
C. C. U. Highgrove National Navels, $2.15.
C. C. U. Riverside Carnation Navels, $1.65.
A. C. G. Pointer Navels, $1.70.
C. C. U. Highland Cactus Navels, $1.50.
Riverside Frt. Exc. Victoria Navels, $1.70.
C. C. U. Highgrove Capital Navels, $1.50.
S. A. Frt. Exc. Parrott Navels, $1.50.
C. C. U. San Mariona Skyhigh Navels, $1.30.
C. C. U. Highgrove National $1.60, Gypsy Queen, $1.50.
Duarte Monrovia Frt. Exc. Violet Navels, $1.25.
C. C. U. El Cajon, Chase Fancy $1.30; Chase Choice, $1.15.
C. C. U. Fullerton Dragon Navels, $1.20.
O. K. Upland, Coyote, $1.40, Owl, $1.25.
C. C. U. Covina Topaz Navels, $1.15.
A. C. G. Azusa Red Shield, $1.35, Red Shield Improved, $1.50.
Duarte-Monrovia Frt. Exc. Iris Navels, $1.70.
C. C. U. Redlands Lion Head, $1.70, Tiger Head, $1.50.
Covina Frt. Exc. Red C Navels, $1.50.
S. T. Frt Ex., Our Farm Navels, $1.30.
C. C. U. Redlands, Clover, $1.50.
O. K. Ontario Coyote, $1.45.
C. C. U. Whittier Halo, $1.25, Hollyhock, $1.20.
A. C. G. Lateen Spur Pointer, $1.40.
C. C. U. Redlands Camelia, $1.50, Blossom, $1.30.
C. C. U. Redlands Lion Head, $1.70, Tiger Head, $1.45, Tangs, $3.85.
C. C. U. Casa Blanca Gypsy Queen, $1.50. Carnation $1.40.
Riverside Frt. Exc. Fiesta, $1.20.

BOSTON, March 2, 1904.
Queen Col. Fr. Ex., Monogram $1.15; Southland eBauties, $1.75; Leader, $1.25; Tangs, $3.30.
C. C. U. Redlands, Camelia, $1.35, Blossom, $1.25.
Queen Colony Queen Bee, $2.15, Royal $1.95, Tangs, $3.75.
Riverside Frt. Exc. La Masa, $2.15.
S. B. Highland Pine Cone, $1.95, Carrier $1.70.
S. B. Redlands, Swan, $2.00.
S. T. Whittier, Whittier Navels, $1.05.

PHILADELPHIA, March 2, 1904.
Riverside Fft. Ex., Red Mountain, $170; Standard $1.40.
O. K. Cucamonga Lark, $1.45, Owl, $1.45.
C. C. U. Redlands Lion Head, $1.90, Tiger Head, $1.70.
Riverside Frt. Exc. La Masa, $1.75.
O. K. Ontario, Coyote, $1.55.
C. C. U. Redlands Camelia, $1.70, Blossom, $1.65.
C. C. U. Pasadena Flamingo, $1.50.
S. B. Highland, Pine Cone, $1.64, Carrier, $1.70.
S. B. Anaheim Fancy Choice, $1.60.
A. C. G. Lateen Spur Pointer, $1.55.
Riverside Frt. Exs. Red Mountain, $1.70.
C. C. U. Verdugo Paradise, $1.40, Golf, $1.30.

PITTSBURG, March 2, 1904.
O. K. Ontario Coyote, $1.65.
S. A. Frt. Ex., Pomona, Jewel, $1.45.
S. A San Dimas Select Navels, $1.65.
Riverside Frt. Exc. Lincoln, $2.00.
Riverside Frt. Exc. Uncle Sam, $1.80.
S. A. San Dimas Select Navels, $1.60.
S. T. Whittier, Whittier Navels, $1.40.
S. A. San Dimas Pet Navels, $1.45.
O. K. Upland Coyote, $1.50.
Riverside Frt. Ex., La Mesa, $1.80.

NEW YORK, March 3.
Riverside Frt. Exc. La Masa, $1.70.
S. B. Highlands Pine Cone, $1.80, Arrow Head, $1.55. Carrier, $1.45, Grape Fruit, $2.35.
C. C. U. Arlington, Carnation, $1.60.
Riverside Frt. Exc. Blue Globe, $1.90, Red Globe, $1.65.
C. C. U. Redlands, Blossom Navels, $1.40.
C. C. U. Highgrove, National, $2.15.
O. K. Ontario, Coyote, $1.50.
Riverside Frt. Ex., La Mesa, $1.70.
S. A. Pomona, Parrott, $1.45.
C. C. U. Redlands Lion Head, $1.70, Tiger Head, $1.50.
S. T. Frt. Exc. Our Farm, $1.35.
C. C. U. Redlands, Clover, $1.50.
C. C. U. Redlands California Best, $1.45, World's Pride, $1.40.
S. T. Alhambra, Don Quixote, $1.40.
Riverside Frt. Ex., La Mesa, $1.80.
C. C. U. Redlands Tiger Head, $1.50, Tangerines, $4.10.

BOSTON, March 3.
Riverside Frt. La Mesa, $1.90.
C. C. U. Redlands, Redlands Beauties, $2.45, Atlas Improved, $2.05.
S. B. Highland, Carrier, $1.90.
C. C. U. Colton Angel, $1.95.
A. C. G. Lateen Spur Pointer Improved, $1.85.
C. C. U., Casa Blanca, Gypsy Queen, $1.75.
C. C. U. Redlands Rose, $2.20, Rose Grape, $3.35.

NEW YORK, March 4.
C. C. U. Redlands Sunflower, $1.85, Blossom, $1.50.
S. B. Highlands, Pine Cone, $1.80.
C. C. U. Riverside National, $2.00, National Grape, $2.60.
Riverside Frt. Ex., La Mesa, $1.80.
Riverside Frt. Exc. Blue Mt., $1.70, Red Mountain, $1.65.
C. C. U. Casa Blanca Gypsy Queen, $1.70.
C. C. U. Highgrove Capitol, $1.70.
C. C. U. Redlands Clover, $1.70.
Covina Frt. Exc. XX Navels, $1.60.
C. C. U. Redlands Tiger Head, $1.60.
C. C. U. Redlands, Redlands Beauties, $1.90, Redlands Improved, $2.75.

PHILADELPHIA, March 4.
C. C. U. Redlands Lion Head, $1.80, Tiger Head, $1.70.
S. B. Redlands Royal Knight, $1.70, Swan, $1.75.
S. T. Pasadena Echo, $1.80.
A. C. G. Azusa Stag, $1.65, Pointer, $1.60.
S. T. Frt. Exc. Our Farm, $1.55.
C. C. U. Redlands Sunflower, $1.70, Blossom, $1.55.
A. C. G. Glendora Stag, $1.80, Pointer, $1.70.
O. K. Upland Coyote, $1.70, Quail, $1.15.

NEW YORK, March 7.
S. A. Pomona Goddess, $1.65, Parrot, $1.60.
C. C. U. Redlands Rose, $1.80, Clover, $1.65.
Riverside Frt. Exc. La Masa, $1.85.
C. C. U. Redlands, Lion Head, $1.95, Tiger Head, $1.65.
C. C. U. Highgrove Capitol, $1.85.
C. C. U. Redlands Clover, $1.65.
C. C. U. Highland Yosemite, $1.65.
C. C. U. Redlands Beauties, $1.80.
C. C. U. Redlands Sunflower, $1.85.

PHILADELPHIA, March 7.
S. A. Pomona Volunteer, $1.75.
C. C. U. Redlands Tiger Head, $1.70, Lion Head, $1.60.
Queen Colony Royal, $1.70.
A. C. G. Glendora Stag, $1.85; Pointer, $1.70, Thompson Improved, $2.00.
A. C. G. Glendora Stag, $1.85, Pointer, $1.70; Thompson Improved, $2.00.
S. A. Pomona Jewel, $1.65.

BOSTON, March 7.
C. C. U. Highland Trophy, $2.30.
S. B. Redlands Swan, $2.20.
S. A. Pomona Indian Hill, $2.00.
Volunteer, $1.75.
C. C. U. Redlands Blossom, $1.65.
C. C. U. Redlands Atlas, $1.95.

NEW YORK, March 8.
Riverside Frt. Exc. Blue Globe, $1.80, Red Globe, $1.65, Tangs. $2.95.
S. B. Redlands Swan, $1.30.
C. C. U. Redlands Clover, $1.70.
Riverside Frt. Exc. Our Pride, $1.65.
S. B. Redlands Royal Knight, $1.95.
C. C. U. Redlands Atlas, $1.65.
Riverside Frt. Ex., La Mesa, $1.85.
C. C. U. Redlands, Redlands Beauties, $1.75.
Riverside Frt. Exc. Uncle Sam Navels, $1.75.

BOSTON, March 8.
O. K. Upland Quail, $1.80.
C. C. U. Rialto Cream, $1.90, Minnehaha, $1.55, Lemons, $2.55.
S. A. Frt. Exc. Pomona Volunteer, $1.80, Select, $1.50, Morning Glory, $1.70.
C. C. U. Casa Blanca Gypsy Queen, $1.55.
Riverside Frt. Ex., La Mesa, $1.85.
C. C. U. Redlands, Redlands Beauties, $1.90, Atlas, $1.60.
C. C. U. Redlands Sunflower, $2.05.

VETERINARY DEPARTMENT

BY DR. W. J OLIVER,
109 No th Broadway, Los angeles

POSSIBLY GLANDERS.

Editor Cultivator: I have a horse that commenced running at the nose about two weeks ago and his nose is sore wherever the discharge touches him. The discharge is mixed with white specks. The horse feels well and looks well. What shall I do for him?—W. H. O., Covina.

Your horse shows symptoms of glanders. Have him examined by a competent veterinary surgeon.

KIDNEY DISEASE.

Editor Cultivator: I have a cow about ten years old, too weak in her hind parts to get up. She eats hearty and seems well in every other way. This is the fourth day she has been down and last night she had a nice large calf, but rather poor and couldn't get up nor stand for several hours. Can you oblige by telling through the Cultivator what to do for the cow?—F. A. E., San Luis Rey.

Give the cow the following and she will soon get on her feet. Nit. potash 3 ounces; nux vomica powder, ½ ounces; mix. Give dessert spoonful 3 times a day. You can give this rolled up in paper like a ball, or give in solution in bottle.

USE A NOSE PREVENTATIVE.

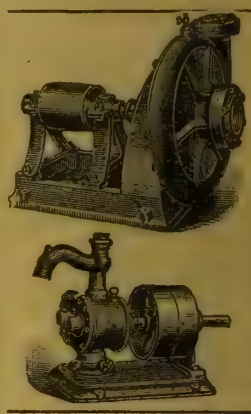
Editor Cultivator: Would you kindly answer through the Cultivator if there is any remedy to break a cow from taking her own milk. Have been milking a heifer six or eight months and in the meantime have tried different things but all to no avail, among them, by putting a strap over the nose studded with nails, a stick attached to halter and belly girth; also, three horse collars about the neck, none of these prevent her, and thinking some of the many readers of the Cultivator have had a like experience I would be deeply indebted for information to cure her—R. J. B., Ventura.

There is an arrangement made the shape of the nose attached to a ring in the nose, that hangs down over the upper lip that is said to be effective. This does not interfere with their feeding and would be worth trying.

DIABETES.

Editor Cultivator: Have a mare twelve years old, in good condition, but she is continually passing water twelve or fourteen times a day. Can you tell me the cause and cure in Cultivator? She drinks lots of water and eats well.—T. H. H., El Cajon.

This is a case of diabetes. Change the feed; give iodine tincture, one tea spoonful night and morning; increase the dose if necessary after 3 days. Stop the medicine gradually as soon as relieved.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ALIAS SUMMONS.
No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.
Chas. B. Estill, plaintiff, vs. Mollie Estill defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above brought against you in the Superior Court of the County of Los Angeles, State of Cali this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles State of California, this 20th day of January A. D. 1904.
(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

ALIAS SUMMONS.
No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.
Doty T. Parks, plaintiff, vs. Alice Parks defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.
(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

A NATURAL MISTAKE.

(Continued from page 259)

then Miss Shurtleff's face broke into a smile.

"Why, my dear man," she said, "I am Mrs. Shurtleff. Julia, there on the bank, is my step-daughter, and the only Miss Shurtleff that I know of."

Poor Gifford's face was purple.

"You see, my husband is thirty-five years older than I am. But I'm not angry with you. In fact, you've paid me a great compliment. But I thought you knew all the time."

Mrs. Shurtleff wanted her step-daughter to help her row back to camp in Tommy's boat, but Gifford would not listen to it. He was game to the end. He left the camp that night and went back to Milwaukee. He didn't care to wait and meet the aged Mr. Shurtleff.—Chicago Tribune.

A NEW STORY OF JOSEPH JEFFERSON.

The man who drove me from the little hamlet of Buzzard's Bay along the three-quarters of a mile of winding road to Crow's Nest, Joseph Jefferson's summer home, was a bit of a philosopher in his way.

"I've lived some sixty-odd years in this vale o' tears," he said, as we plodded on in the misty rain, "an' I've l'arned one or two things. One is thet the bigger a man is, the clusser ye can approach him."

He gave the horse a fleck with his long whip, and continued, meditatively, "T'other day a man come over to my place opposite the station. 'Me good man, he said, haughty-like, 'hev ye a hoss?" I hed. 'Git it out at once,' he went on. 'I think I'll let ye drive me down the road a bit. But ye must be quick, as I ain't used to waitin' much.' His manner riled me, an' I told him my hoss was busy. 'Busy?' he said, an' drew up his head half a foot higher. 'Thet can't be. Trot along, me man, an' git out yer rig. I'll give ye a dollar fur the afternoon.' It was so funny I laughed in his face. 'Ye are a fool,' I said, an' went into the house.

"Thet same day another man come along. I was cleanin' this buggy, an' the man stood an' watched me. 'How dye?' he said. 'Fine day, ain't it? How's the missus? I see ye have some fine turnips growin' over there. Good year fur turnips, ain't it? Got some myself thet promise well. Ye ought to see 'em. When ye are up my way drap in, an' I'll show 'em to ye.'

"'I will, Mr. Jefferson,' says I. A while later I l'arned thet the other feller was a butler fur a family on the other side o' the bay. It beats all, the difference between people, don't it?"—January Woman's Home Companion.

A DEFERRED RESTITUTION.

A pig belonging to a widow named Murphy mysteriously vanished one night, and Pat Hennessy, a ne'er-do-well, was suspected of having had something to do with its disappearance. He denied all knowledge of the pig, however, and as there was no evidence against him he was allowed to go free; but at Mrs. Murphy's instigation, the priest went to see him.

"Pat," said the priest, "if you've no fear of the law in this world, at least give a thought to the hereafter. When you're before the Judgment Seat, what are you going to say about that pig?"

"Shure, I dunno," replied Pat. "Will they be after askin' about th' pig in Purgatory, yer Riverence?"

"They will," said the priest.

"Will Mrs. Murphy be there, yer Riverence?"

"Yes, Pat."

"An' th' pig?"

"Yes, Pat."

"Shure, I'll wait an' give it to her thin, yer Riverence."—February Woman's Home Companion.

RECIPES

Eat Little, but Have That Little Good

Deviled Chicken.—Two cups finely chopped cooked chicken; 2 tablespoons butter; 2 tablespoons bread crumbs; ½ cup cream; 2 hard boiled eggs; 3 drops onion extract; 2 tablespoons chopped parsley; salt and pepper to taste; melt the butter, add the bread crumbs and cream, stir until the mixture is heated; add the eggs (the yolks and whites passed through a seive), the parsley and seasoning. Mix well, take from the fire, put in shells or individual dishes, cover with greased bread crumbs and brown in a quick oven. Curry powder, paprika and other seasoning may be added at will.

* * *

French Toast.—Several slices of bread may be dippd in th following mixture and fried in butter, making a nice dish for luncheon: 1 egg, 1 cup sweet milk, a little salt. This may also be served at dinner, instead of fritters, with fruit syrup or jelly poured over it.

* * *

Macaroni and Cheese.—Wash 1-3 pound small French macaroni, cook in boiling water until tender, drain and add 1 pound finely cut cheese, ½ teaspoon salt, a little pepper, a dash of red pepper, a pinch of mustard, pour over it a cup of milk, put over the fire and stir until the cheese is well melted. Butter a baking dish, put in the macaroni with bits of butter and slices of cheese on top. Cover closely until time to bake. It is better to prepare this the day before it is wanted. Before putting in oven pour over a little more milk and bake from ¾ to 1 hour in a moderate oven. Send to table in the dish it is baked in.

* * *

The water that is used for tea and coffee should not be alowed to boil long before using.

WHAT MAKES A LADY.

Every girl is ambitious to become a lady.

The most noticeable feature about a real lady is that she never makes herself conspicuous in the slightest degree. She dresses, talks, walks and acts quietly. You cannot tell her a block away, because she is dressed so modestly and appropriately that she is not conspicuous.

She never adopts flaring hats and gaudy colors, simply because they are the fashion; she never laughs so loudly that people turn to look at her, and she tries to cultivate "that most excellent thing in woman—a soft voice."

The very best thing you can do, girls, is to behave and look like a lady.

To be a true lady means to be a good many things. It means modesty, gentleness, self-control and thoughtfulness for others' welfare.

Try to realize that it is better to be ladylike than to be "stylish" when to be the latter means that you must wear a ridiculous hat and impossible shoes.

All men admire and respect the woman who is a lady as well as a woman. They know that if she is a lady in the truest sense of the word she is gentle, and there is not a man living who does not love gentleness.

When you find your voice and laughter growing loud and attracting attention, just pause and ask yourself: "Am I behaving as a lady would?" When you are choosing your clothes, avoid conspicuous effects.

Be a lady in looks as well as actions. —Beatrice Fairfax.

A GORDON ANECDOTE.

The late General John B. Gordon used to tell the following incident as a pretty good joke on himself:

Not long after the Civil War the general and a number of friends formed a co-partnership for raising stock and for trading in land. The business office and the general's home, for the time, were near the banks of Flint river in Georgia, and the style of the organization was The Flint River Land and Live Stock Company.

Mrs. Gordon had not favored the enterprise and had endeavored to dissuade her husband from participation in it, but failing in this she "lay low and said nothing." A few months after the beginning of the venture, one of those heavy freshets, for which that region of Georgia is famous, came on, the river spread in width from its hundred yards to half a mile or more, and the flood submerged nearly all the land and drowned most of the cattle, etc., of the company. One day, while the general and his wife were standing on a porch and viewing sorrowfully a floating procession of animal carcasses that swept past, Mrs. Gordon spoke up and said:

"General, isn't your firm called 'The Flint River Land and Live Stock Company?'"

"Yes, my dear," was the reply, "but why your question?"

"Well," said the lady, "I was thinking that a more appropriate name just now would be 'The Flint River Water and Dead Stock Company.'"—Ex.

A farmer presented himself at a rural school, dragging an overgrown youngster reluctantly through the door. "This here boy's after an eddication," he explained. "What d'ye teach here?" The timid teacher replied that she taught history, grammar, reading, arithmetic, algebra, trigonometry—"That'll do," interrupted the farmer. "Load him heavy with triggernometry. He's the worst shot in the family."—Ex.

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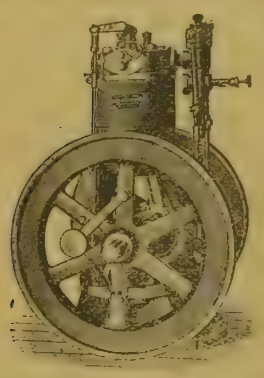

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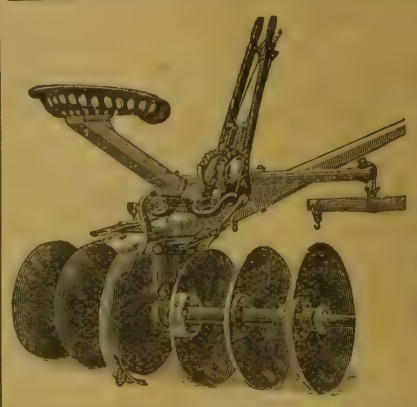

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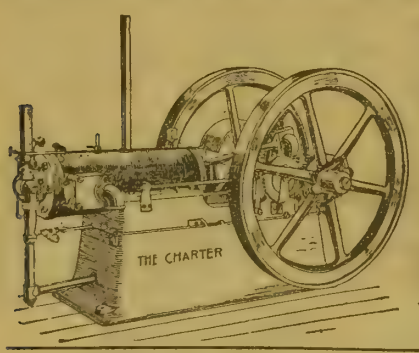

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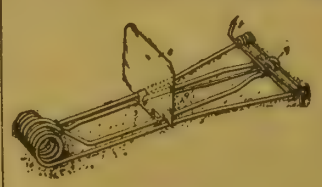

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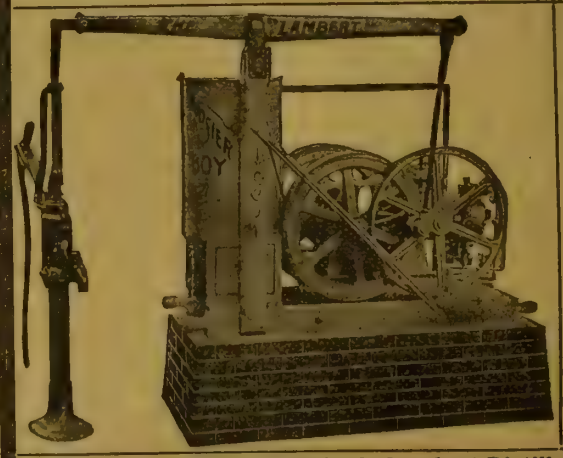

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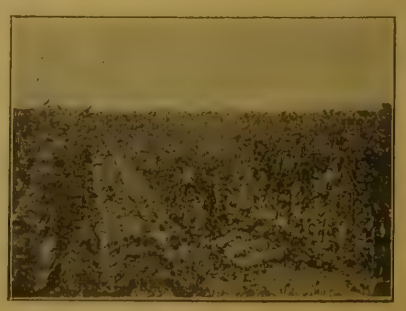

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Vol. XXII—No. 12 LOS ANGELES, CAL., FRIDAY, MARCH 18, 1904 Subscription $1 a Year

Culture of the Strawberry

By Dwight Griswold, Tropico

In all the field of cultivation there is none other among the small fruits that has more to interest or greater diversity of methods of cultivation than the strawberry; different soils and different localities call for different varieties and different treatment to obtain desired results; but there are some things that apply to all localities and to all varieties, and no one has yet combined into successful practice all the best things of the various methods used, or obtained uniform results from any particular plan pursued.

The condition of plants, and the weather following their planting will often upset the best calculations that are based upon former results.

We will only touch briefly upon the various points that seem to us to be of the most vital interest to those engaged in strawberry growing and trust to subsequent discussion to elaborate as much as may be needed.

In that section of the State where I have the pleasure of living the business of raising strawberries has become one of great importance and profit, and is carried on with a degree of intelligence and careful detail that has earned for the locality of Tropico a deserved reputation for the finest strawberries grown anywhere in the State, and as fine as those produced anywhere in the entire country.

In preparing the ground for planting, care should be taken to have five or six inches of thoroughly pulverized surface upon a good firm subsoil; soil that is loosened, and open to a greater depth than this, requires more water for irrigation and gives greater trouble in firmly setting and starting plants. In fact, our observation would lead us to prefer a soil but little disturbed to one that has been broken up to a great depth.

When making final preparations for planting the field should be free of all weeds and any refuse that will prevent getting a smooth and well graded surface. All labor expended with that object in view will be repaid many times over in better and more satisfactory planting, cultivation and irrigation.

Except on ground that has been impoverished by heavy cropping, we have never found commercial fertilizers of much benefit, and would hesitate to use anything in that line except pure blood and bone. After the first year on vines that have borne heavy a good dressing of stable manure, or a compost of several kinds can be applied in the fall to good advantage, and vines so treated will generally bear well the fourth year out; but stable manure worked into the soil will almost without exception call for more water, resulting in rank plants and berries of very poor quality.

In planting several methods are used in laying out the beds, either in single or double rows, according to the nature of the soil and the results to be obtained in a given time.

Single rows are to be preferred in a soil that packs or bakes, while double rows give the best results in a sandy or porous soil where the water penetrates quickly and the surface does not crust. When we do not plant for runners or permit them to fill in the rows, we use from 40 to 100 thousand plants to the acre planted level and in rows eighteen inches apart; in planting for matted rows only 10,000 to 12,000 plants are set to the acre, in rows two feet apart; from this last way of setting no returns should be expected the first year and all such obtained will be at the expense of future profits.

All the labor should be done by hand, weeding, cultivating, furrowing; it is far more effective and just as cheap as horse power.

From the time the plants are first out until the bloom has set, they should be kept thoroughly cultivated and in a thrifty condition; then close and deep cultivation should cease and the soil be kept moist by more frequent cultivation and light soil mulching.

Fifteen Acres of Strawberries.

Plants do well planted at any time from January 15th to October 1st; the time of planting should be governed by the results wished to be obtained in a given time.

Experience has demonstrated that plants set as early as July and August, as a rule, will not fruit until the following spring, in April or May; while plants set in September, with favorable weather and good care, will fruit in November and December. These early set plants all bear heavy crops of fine berries the first year, making but few runners and those late in the season.

Plants set in January will generally give fair crops the first year and make plenty of sets, while those set later, up to April first, make rapid growth, few berries and abundant, strong, early runners.

The best method to obtain a satisfactory fall and winter crop is to hold over plants by bedding out in nursery form; these should be set out in August and be kept well irrigated and thoroughly cultivated. These plants will generally commence bearing in October or November, and continue fruiting until frosts come.

We have had in an exceptional season, such planting continue fruiting for fifteen months, during which there was not a week that berries were not picked for market.

While there are several varieties of strawberries that do well in our locality, the Brandywine has proven itself much superior to all others that have been tried, both for length of season and profitableness. Its large size, perfect form, deep brilliant color, eating and shipping qualities, makes it a general favorite, as its almost exclusive planting shows, and justifies the reputation it has of being the best strawberry grown anywhere in the State.

Whatever the variety planted, care should be used in the selection of the stock and only strong, vigorous plants be used, for it takes more care, labor and expense in every way, except in the first cost of plants, to raise fruit from weak, degenerate stock, while the net returns are cut down one-half.

If fresh eastern plants cannot be obtained it is better to get plants from a distance and from soil of a different nature; good plants will do better the fourth year out than poor plants will the third year.

Continuous replanting will be of interest to those of small holdings who wish to keep in the business of strawberry growing; soil of a good quality, containing plenty of humus, can be replanted without giving it rest by adding a moderate amount of pure blood and bone; our own experience has shown that excellent results can be obtained by such replanting, though reports coming from most sections would indicate that the practice is not generally profitable.

The preparing of the fruit for market has probably received more attention in the section about Tropico than anywhere else in the State; and if it is worth while to raise strawberries, and good ones, it is certainly worth while putting them up in the best possible shape for market. When picked they should be immediately taken out of the sun and wind; the grading should be done in the field and the packing and final crating should be done in the shade with the least possible amount of handling.

Far better work will be done by the hour than by the piece; any berry that will not reach the consumer in good condition should never be put in for market.

Tell your pickers and packers to reject all fruit such as they would be unwilling to eat.

We find it a good plan to put the grower's name in each basket on a slip of paper; it helps the grower, if his goods are right, and protects the consumer from imposition.

There is a good market in the far eastern cities for berries from October to January, but unless the shipper is willing to take the utmost care in selecting and handling the berries before starting them on their long journey, nothing but loss and disappointment need be looked for.

We have found that a registered trademark helps to distinguish and give reputation, for when you feel that you have a good thing it is easier to persuade others that you have such.

From the time you start to prepare the ground until your berries are in the hands of the consumer, if you wish success, you must study every step in the process and meet the necessities and conditions as they appear.

Simple as the growing of strawberries may seem, you will find it an occupation that calls for active, intelligent effort.

NATIONAL CO-OPERATIVE CONGRESS.

Alonzo Wardall, chairman of all industrial and commercial co-operative societies in the United States and Canada, has issued a call for a convention to organize an American Co-operative Union. The call is in part as follows:

"All Industrial and Commercial Co-operative Societies in the United States and Canada are invited to participate in the organization of an American Co-operative Union; the congress for that purpose to be held on the World's Fair grounds at St. Louis, June 16 and 17, 1904, and representation to be as follows: Each local society, either affiliated or non-affiliated with other societies, to be entitled to one delegate; and each general organization of such societies, either State, district, or national, to be entitled to five delegates; one vote to each delegate, and no proxies.

Delegates should bring credentials signed by the proper officers of their societies.

The purpose of this congress is to form an unincorporated federation of the industrial and commercial co-operative societies of America for educational and organization work, to promote our business interests, and to arrange for holding annual congresses.

Under the head of Industrial Co-operative Associations are included all forms of agricultural organizations, shipping, fruit, cheese, buttter, etc."

Mr. A. H. Naftzger, of Los Angeles, is the member from California on Committee of Arrangements.

CALIFORNIA CULTIVATOR

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FRANK HONEYWELL, BUSINESS MANAGER

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Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, March 18, 1904

ITEMS OF INTEREST.

We Feed the World.—The figures just given out by the bureau of statistics, now a part of the department of commerce, for flour exports in 1903, are especially interesting at this time. The total is considerably larger than for any preceding year, showing the importance the wheat industry has attained in the commerce of the world, and the further fact that not only does America lead the world in raising wheat but in manufacturing it into bread. The statistics exhibited by the bureau referred to, in round numbers, show the total exports for 1903 reached 20,000,000 barrels of 196 pounds per barrel. The value of the flour exceeded that of any preceding year, with the exceptions of 1892 and 1893, but the quantity exported was materially less. The exact number of barrels of flour exported from the United States in the fiscal year 1903 was 19,716,634, valued at $73,756,404, while in 1893 the number of barrels was 16,620,339, but the value was $75,494,347, prices of that year being materially higher.

The fluctuation of prices in the export of wheat has been due to poor crops in Europe, principally, but with few exceptions from 1880 to 1903 the output of wheat has steadily increased, the percentage of last years' crop which was exported being as 54.5, compared with 17.5 in 1880. These figures are, in every way, phenomenal, for they indicate how rapidly America is advancing to the certain position of the foremost wheat producing country in the world. Other countries have, in times past, produced in a single year more wheat than this country; but the significant point in the matter is the uniformity with which the producing power in America has been maintained, as well as the growth of the wheat and flour industry. We shall soon be able to supply the world with both wheat and flour, even if the per cent of gain in the wheat crop is not materially increased.

* * *

An Important Decision.—The recent decision of the Supreme Court at Washington upon the merger case of the Northern Securities Company, wherein it holds that the "holding" corporation organized by J. J. Hill and J. Pierpont Morgan for the purpose of holding the control of the Northern Pacific and Great Northern railway companies to prevent competition, was in violation of the law under the Sherman act. In other words, it was in restraint of trade to merge the two great competing lines and to operate them as one. This decision practically endorses the position of the executive branch of the government in its contention against the methods and operations of trusts. The announcement of the decision did not affect the stock market, except to cause a slight advance in the price of the stocks of the two roads concerned.

This decision will stand in importance as one of the greatest in the history of our national jurisprudence, inasmuch as it practically defines the limitations to which corporations may go. It is far-reaching in its effects. The principle involved applies to all corporate bodies organized for profit, and approves the Sherman act for the regulation of trusts, making it impossible of revocation by congressional action. The decision will rank in history with the famous Dartmouth College case and the notorious Dred Scott decision on the fugitive slave law. The Inter-State Commerce Commission may find in this decision some thing helpful to aid it in defining the limitations of transportation companies in the matter of arbitrary ratings, of classification and charges, and to more easily prevent extortion and unjust discrimination.

* * *

The Slaughter of Song Birds.—The wanton slaughter of song birds by small boys with air guns and nigger shooters is arousing public sentiment to a pitch where prosecution of these vandals will be energetically carried on. It is high time the officers of the law take due notice of the ruthless slaughter of the innocent song birds, and move with severity on boys, big and little, who are destroying them. Let the women of this State join in this crusade, for if a stop is not immediately put to killing song birds we shall be without them in California. Let the campaign be inaugurated at once by press, women and public officials to the end that swift punishment may follow all violators of the law.

* * *

Spare the Trees.—California is rapidly losing what forest trees it has. Not only in the towns and cities are our shade trees being destroyed by linemen in the service of telegraph, telephone and electric light companies, but the lumber companies are denuding millions of acres and wantonly destroying much of the young growth in our forests, so that the great West, which, less than a quarter of a century ago was literally a wilderness of fine forests, is, today, barren, showing only stumps and brown fields where verdant grasses and rich foliage grew in profusion. The result is that spring thaws create raging floods and summer suns seasons of destructive drouth, in which no green thing can live. Our protracted drouths are the result of denuding the land of its protection of trees and these will continue to afflict us until we return again to a balanced condition where nature originally put us, or at least, until we cover in part the territory denuded of forest trees with a growth of vegetation to induce rain and conserve the water which melts from snow, all of which now goes to waste.

The Bureau of Forestry at Washington has just entered into an agreement with a company controlling 1,300,000 acres of timber land in the States of Washington and Idaho to prepare working plans for their enormous holdings which will provide for growth of new trees to take the place of those that are cut, thereby securing a constant replenishment against denudation.

Tree planting and the natural reproduction of deficient forests receive a constantly increasing share of the attention of the Agricultural Department. Last year the department prepared plans for tree planting in twenty-nine States, involving the examination of 40,557 acres of land, including the prairie regions along the Fort Worth and Denver City railroad, 640 acres in Alabama, the Dismal Forest river reserve of Nebraska, the San Gabriel forest reserve of California—in Oklahoma, North Dakota and Arizona. The work for this year will include tree planting on Pike's Peak and in Wichita, Prescott and San Bernardino forest reserves.

* * *

No Relief In Sight.—Reports have been sent from New York to the effect that the transcontinental lines are about to reduce the cost of transportation to the citrus growers of California. It is a matter of regret to say that at present no relief is in view. The matter of freight reduction on California oranges and lemons has been pushed by the president of the Southern California Fruit Agency for several years, but as yet no compromise has been effected, and from all appearances none is in sight. We do not believe, as some newspapers contend, that the orange industry is on the verge of collapse, but we do believe, as has been repeatedly said in these columns, that sufficient reduction in freight rates should be made to the grower to permit of a better return on his investment. Such a reduction ought to be made by the railroads and we firmly believe it might be made without loss to them, and with future profit in the largely increased business which extended orchard growing would excite by reason of encouragement to the industry.

* * *

Vaccination Is Cheap Insurance.—Carefully estimated statistics place average losses from Black Leg in unvaccinated herds at 15 to 20 per cent. Estimated loss due to postponing vaccination until after disease has appeared in herds, 5 per cent. The possibility of even this 5 per cent loss can easily be avoided by vaccinating young stock previous to the beginning of the Black Leg season.

MARKETING FRUIT.

Mr. George T. Powell, a prominent fruit grower in New York, recently read an article before a Spencerport Farmers' Institute on fruit marketing, and among other things said:

"More growers fail in the important essential of properly marketing their products than at any other point. In many instances valuable products over which the agriculturist has worked the entire season, are practically sacrificed at the end of it through ignorance or inattention to the proper methods of marketing the fruit. The fruit grower should visit the markets himself and observe closely the methods, the demands of the buyers, and other essentials of the business. In this way a vast amount of practical and valuable information may be acquired.

"Growers do not recognize sufficiently the importance of proper grading of the fruit. Too often we get the impression that all the apples we grow should go into the barrels, and altogether too much does go there. The demand at the present day is for fruit well graded and of an absolutely good quality. Western fruit men recognize this fact and the consequence is that western fruit is more carefully graded than that of the East and commands a higher price in the markets of New York City. In California the people understand the science of marketing. The fruit is put up with uniformity, which unfortunately is not the case in New York State, where each individual fruit grower puts up his own fruit in his own way. The result is that the buyer casts aside our fruit, giving preference to the California products."

California fruit shippers will note the importance given to proper grading of fruit. Indifference to this feature has, in the past, proven a severe drawback to some of our fruit interests. If we are wise we shall take greater care along the lines suggested by Mr. Powell in caring for and marketing our fruit.

BY J. W. JEFFREY, LOS ANGELES

LET US REASON TOGETHER.

An account has been published of a meeting held at San Fernando on March 13th at which meeting the organization of "The Fruit Growers' League" was attempted. The plan proposed is to form such leagues in every citrus fruit growing district in Southern California, and meetings have been called, it is stated, in many localities for that purpose. It seems strange, that any one would attempt at this time to go behind what has already originated in the most sure and thorough effort at co-operation ever attempted among farmers. For four years the Cultivator has devoted a department to this movement, giving a history of its inception, an exposition of its principles and an account of its achievements. Nothing that any new Moses could do could come so directly in touch with the fruit growing individual as the agitation which began in 1892 to assume form in the organization of dozens of local associations, each with its own capital stock and all amalgamated under a comprehensive plan which for ten years stood the buffeting of opposition and adverse circumstances and won the victory as far as possible with the support of only a portion of the growers. This movement originated among the orchardists of Riverside and Pomona. It came directly from the people concerned fundamentally in the success of the citrus fruit business, was supported and extended entirely by these people, and controlled by them to this hour. Whatever evils exist in the business of fruit selling, be assured did not originate through any fault or omission of the co-operators. When experience has finally sifted out the proposition to a final conclusion, the people will see how utterly void of practical sense are such ephemeral efforts as are now being made to crystalize the dissatisfaction of a disastrous season into a movement without excuse, continuity or sound principles. The present movement to organize a side scheme is the first one on record in which the attempt has been made to organize the growers against themselves. The sober thought of every one must convince him of the impossibility of ever organizing anything as strong as the Exchange.

Let us place this matter in a stronger light. Suppose the "alleged" Fruit Growers' League could by some mischance secure the allegiance of 50 per cent of the growers. It would be composed of the same people now in some form of co-operative association. It would have no higher quality of business ability than the 50 per cent now in the Exchange, would meet the very same marketing difficulties and have the same opposition at this end of the line. The measure of business capacity can reach no higher than the average ability of the growers to prepare their fruit for the trade intelligently and economically; and their judgment in selecting the very best men to be found for managing the selling machinery. In every local association, local exchange, and in the Central Exchange the growers have built from the best men they have. Or, if not, would the proposed "League" be able to select better men? Would an experiment incited by a newspaper upon the issue of high freight rates or low prices have weight, authority or staying capacity, when an organization founded upon the eternal principle of selling one's own products, cutting out all unnecessary factors and eliminating all possible speculative elements has had extreme difficulty in holding its own against adverse conditions? A June frost would be a perpetual stayer in comparison with the proposed "League" should it ever get farther than freak head lines in a local journal.

If a co-operative fruit organization cannot be permanently constructed upon the issues of non-commission dealing, the elimination of speculation in fruits, distribution under constituted authority and preventing inter-competition between the products of each grower, there is no use of attempting it upon calamity, exhorbitant railroad charges and roseate promises of people who "win big fights" upon paper.

The Cultivator does not wish to question the sincerity of those who are attempting to correct the evils that may exist in the present methods of marketing fruit, whether they arise from faults of organization or outrageous circumstances. These people who are now making the new talk may be as sincere as were those who campaigned so faithfully during the early nineties for reform and did so much to establish it. But external remedies do not usually reach deep-seated troubles. Such are adverse weather, over-production, heavy competition from other countries and other classes of fruit trade opposition, excessive freight and icing charges, the difficulties of proper distribution and poor carrying qualities of fruit. These questions cannot be juggled with; they must be met with a united front by organization established upon deeper qualities than caprice, fault-finding or assumption. Some of them are beyond power of control from even infallible policies were such policies possible. Others have been handled with consummate ability and persistency, and all of them broadly and honestly. This is all that can be hoped for from any form of organization, and no one should follow any scheme that does not appeal to practical sense or recognize the futility of ill-considered effort. Whatever remedies are necessary must be applied through the medium of well considered and standing authority.

CITRUS FRUITS

A PROBLEM IN PACKING.

J. H. Reed in Riverside Press.

In taking but a part of a crop of oranges, is it best economy to pick clean over a portion of the orchard, or take part of the load from all the trees?

It may seem late in the season to discuss this matter, but I can't help thinking that many are acting in it without careful consideration, even now. Granting that special conditions may sometimes make it best to take the entire crop at one picking, under ordinary conditions, it seems to me a wasteful mistake.

The coloring of an orange is no more sign that it has completed its growth than that its starch has been fully converted into sugar, rendering it thoroughly palatable. Its size continues to increase for weeks and months after it has turned yellow; apparently slowly, but really not so slowly as many think, who have not given the matter special consideration. When my attention was first called to it some years ago, I carefully measured and labeled a large number of well colored fruits of different sizes, and kept careful record during the picking season. Though general observation had convinced me it was considerable, this test showed a much greater increase after the ripening process had commenced than I had supposed.

The commercial sizes, ranging from 96s to 300s, and below, vary by ⅛ of an inch in diamter. This 1-16 of an inch added to the surface, seems but a slight increase, but means more than one would casually think.

Let us figure a little. Allow a box, say of 150s (3 inches in diameter) to increase to 126s (3¼ inch), and we have saved 11½ per cent in solid contents or weight; that is, 8 pounds per box of 70 pounds, or 800 pounds on each 100 boxes. If worth 1½ cents per pound, it means a gain of $12 on the 100 boxes, leaving a net gain of $10 on that amount. An increase of ⅛ inch in smaller sizes, makes yet larger per cent of increase of solid contents. For instance, 250s (2½ inches) increased to 216s (2⅝), have gained over 15 per cent; that is 1050 pounds on every 100 boxes—$15.75. If fruit is worth 1½c per pound, a small fraction of which would pay for the additional cost of picking and trouble.

This slight increase of 1-16 of an inch to the surface is quickly added to all healthy fruits, till full maturity is reached, which is well on into the spring months. In fact it does not require long to put on ⅛ of an inch to the surface (an increase of two sizes), during the picking season, on thrifty trees, if they have been early relieved of a portion of their load. The increase from 250s to 200s (two sizes) amounts to 33 1-3 per cent of contents, or a gain of 35 cents per box of 70 pounds.

The extra cost of partial picking, and the convenience of having the orchard cleared early, are insignificant compared with these gains. Several of our successful orchardists who have handled their crops in this way for many years assure me that their saving is from 10 to 20 per cent of the entire crop—a matter certainly worth considering, at least.

Besides the increase of the crop there are several important advantages in this partial picking. Trees carrying a heavy crop well into the spring must spend on it much of the vigor needed for the blossoming near at hand, while if relieved early of a portion of it, the trees would be ready to take up the new work as well as develop the balance of the crop faster.

Again, early in the season, large sizes are most in demand. Even in the present glutted condition of the markets large sizes are at a premium, while small sizes are not paying their freight. Later in the season, as a rule, the small sizes are sought for, while large sizes are discontinued.

In younger orchards there is often a material saving in taking off early, specially exposed and partially sunburned fruits, many of which would go into the culls if allowed to remain till the trees are cleared.

This season we have an unusual small amount of splits, black rot and other culls, which, with no loss from frost, has materially increased the volume of marketable oranges. But ordinarily I am quite sure it paws to relieve the trees of all easily recognized culls at an early picking.

Of course the picking to size should not be carried to the extreme of leaving only the smallest sizes at the close of the season. But since our marketing is necessarily extended over several months, I am quite satisfied that the practice of relieving the trees gradually by commencing to pick the largest and the most exposed fruit early, followed by one or two partial pickings to size during the season may be much more generally adopted to the advantage of the grower far beyond any additional cost and trouble it may require.

WORKING OVER ORANGE TREES.

Editor Cultivator: Will you please tell me how it is best to replace Joppa orange trees in an orchard, bud over to Valencias or plant in two-year-old Valencias on good strong roots? Which would give the quickest returns?—Subscriber, La Canyada.

You will get quicker returns by budding over the Joppas as they stand, provided they are in a thrifty condition. The budding is successfully done by putting the ends in during the time when the trees are well along in their vigorous spring growth, removing all branches except those which are used for budding into, so that the growth will be thrown into the remaining branches. From four to six weeks after budding, the wrappings are taken off and the tops sawed off just above the buds, wax the ends and whitewash the trunks and branches. The particulars in the operation were given in the February 19th number of this paper. Bulletin 138, issued by the Agricultural Department of the State University, also gives detailed instructions. This may be had by dropping a postal card to the Director at Berkeley.

* * *

DEAD WOOD IN ORANGE TREES.

Editor Cultivator: Will you kindly answer through the Cultivator telling what harm dead wood does to an orange tree? Is it poisonous to the rest of the tree?—J. M. Stevenson, Nordhoff.

We have no reason to believe that dead wood in an orange tree is poisonous to it. It is simply nature's method of pruning. It, however, represents a loss to the grower, inasmuch as it must become useless and takes up room that should be devoted to growing healthy, well-lighted, fruit-bearing wood, before it dies. These dead limbs are useless for several years before they die, and should be removed before they become dead wood. As a general rule, orange trees have too much thick brush on them. This crowding of the leafy branches overgrows and kills the weakest growth. We do not know exactly what advantage there is to be gained by keeping this weak growth trimmed out, as we do not know of any comparative experiments that have been made. Mr. G. H. Powell expects to have work done along this line that will give much valuable and definite information. It would be safe, perhaps, to assert that the dead wood does no harm other than filling up the inside of the tree and excluding the light to a certain degree, and provides scratching posts for some of the fruit.

* * *

NAVELENCIA ORANGES.

A subscriber wishes to know the merits of the Navelencia orange. So far, we have been unable to secure definite information about this orange. We will give our readers all the facts obtainable as soon as we get them.

ORANGES AND SNOW.

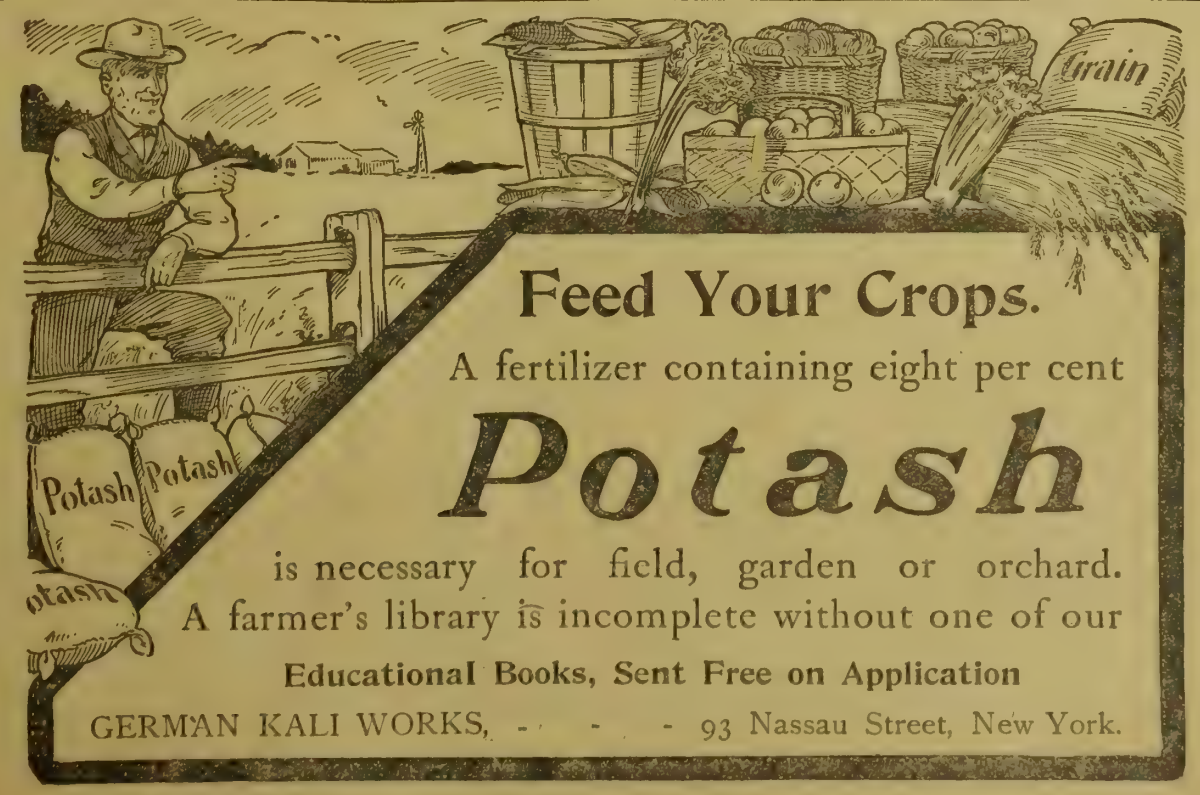
In its last issue the California Cultivator criticizes the Times because we mentioned the snow on San Hedrin and the Citrus Fair at Cloverdale in the same issue. The tone of the criticism indicates that they think we made rather a ridiculous mistake, but we assure them we did not, and can go them one a lot better. Last Sunday we stood among the orange trees at Dan Gobbie's, in the western suburbs of Ukiah, and picked oranges while we looked at the beautiful snow capped range about eight miles east of Ukiah, and old San Hedrin loomed up perfectly white about twenty miles to the northeast. On the lower hills surrounding the valley the grass is growing fine, and the alfalfa and early sown grain in the valley are six inches high, making a beautiful green carpet from one side to the other. In the meadows and on the hillsides buttercups and baby-blue-eyes are beginning to bloom, while the hum of bees among the sweet manzanita blossoms lent an air of springtime to the scene.—Ukiah Times.

CLIMATE AND CROP REPORT

The weather and crop conditions are reported by Alexander McAdie for the week ending March 14, as follows:

Nearly normal temperature prevailed throughout the State during the week and the weather was generally cloudy or partly cloudy. The heavy rainfall on the 9th and 10th was accompanied by unusually high southeast winds in the central and northern sections, the most severe ever experienced in some places. The excessive rainfall in Northern California caused a rapid rise of rivers and creeks, which overflowed their banks and flooded grain lands and orchards. The snowfall in the mountains was unusually heavy and extended well down into the foothills. On the lands in those districts not under water grain is in good condition and growing rapidly, wth prospects of a large crop. From San Francisco southward the rainfall was lighter than in the north, but was of immense benefit to all crops. In the southern coast districts grain is in good condition and the outlook is said to be as good as at this date last year. In the southern San Joaquin valley and Southern California grain and hay prospects are better than at any time during the season. Green feed is plentiful in all sections and cattle are doing well.

The high winds caused some damage to orchards, mainly in the uprooting of trees, but the loss will not be severe. Deciduous fruit trees are in bloom in all sections and give indications of a large yield. Southern vineyards were benefited by the rain.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California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

PROBABLY SAN JOSE SCALE.

Editor Cultivator: My apple trees are affected by a disease or parasite which gives them a scaly or greasy appearance, as on twig enclosed. Usually only a part of tree is affected, but sooner or later that part dies. What can I do for them? Also please give treatment for wooly aphis on apple trees.

The specimen twig accompanying the above was covered with San Jose scale, and this is evidently what is killing the trees. The remedy is the salt, sulphur and lime spray, applied before the trees are in leaf. Wooly aphis on apple is a more difficult proposition to handle than even San Jose scale. This pest breeds on the roots of the trees, on which it produces great wart-like knots, in the crevices of which it lies, protected from any wash or spray that we can apply. Any remedy applied to these insects can only afford temporary relief to the tree. Clear the earth away from the roots of the tree and apply the kerosene emulsion, dig a trench around the trunk of the affected tree about a foot from the trunk and fill this with gas lime or wood ashes, rain falling on this will leach it and cause a caustic lye to reach a great part of the pests and will kill all it reaches; bi-sulphid of carbon has been used with good results, but with this there is danger of injuring the tree and it is not to be recommended. When the aphis makes its appearance on the twigs a good plan is to take a swab dipped in coal oil and touch the bunches where they are lodged.

* * *

GRAFTING THE GRAPE VINE.

Editor Cultivator: I wish to set 20 acres to grapes; the cuttings are made from Lenoir stock, which I prefer to bud or graft to table or raisin grapes. I would like to know through the Cultivator, or otherwise, how and when the work should be done. When should the stock to bud or graft from be cut? Should cuttings be budded after they are planted in field or in the nursery row, and at what time? What should be the probable cost per 100 for budding? This stock is to be planted on deep light sediment soil that cannot be irrigated. If cuttings are planted, how much rainfall will be necessary, with good cultivation, to insure enough moisture for first year? Any information will be gratefully received. Very respectfully, Box 345, Orange.

Scions for grafting may be cut at any time when the vines are dormant. If it is desired to keep them for any time before working, they should be covered with cool, moist sand or soil and not be allowed to dry out.

Any one of the methods mentioned by our correspondent may be followed. It is a common thing to remove the stock into sheds and graft on benches. The work can then be done under cover, regardless of the weather, and is much easier performed than either in the nursery or in the field. Grafting should be done during the dormancy of the vine, which is at any time during the winter months.

We cannot give the probable cost for grafting as it would vary with conditions, the amount paid, and the quantity of work performed. It is, however, a very inexpensive operation.

The grape is one of our hardiest of fruits and will live with very little rainfall, although, of course, it will be better if it gets sufficient. On the soil mentioned six inches of rain should suffice, if it came at proper periods.

If our correspondent will address Prof. E. W. Hilgard of the State University, he can procure two excellent bulletins on this subject, Nos. 127 and 146, on Bench-Grafting Resistant Vine and New Methods of Grafting and Budding Vines.

* * *

SEASONAL WORK AGAINST THE CODLING MOTH.

The season for spraying against the codling moth is close upon us once more and, in the apple sections of Watsonville, Santa Barbara and Sonoma counties, the pricipal apple sections of the State, active preparations are being made to wage a relentless warfare on this, the most serious and costly of all our apple pests. The excellent work done by the University professors in the Watsonville section last summer, will bear good fruit there this year in a wider and more intelligent use of the spray pump. The Paris green wash will still be used most extensively, although experiments have been carried on with other arsenical washes, for the reason that its use is more generally understood and no wash sufficiently better has been found to warrant its abandonment. The common formula of one pound of Paris green, six pounds of lime and 200 gallons of water is the one generally used and is well known to all old orchardists, but as there are many who have not used it, it may be well to give the whole formula. Make the Paris green into a paste, with a little water, before placing it in the spray tank, and while in use keep the mixture constantly stirred, or the Paris green will settle to the bottom and the last of the spray will be so strong that it will damage the foliage, while the first will be too weak to be effective. The object of adding lime is to prevent burning the leaves and in using it the lime should be slaked in water, and when it has settled, the clear water should be added to the solution. As to frequency of spraying, Prof. Clark, acting from his experience in the Pajaro valley last season, says:

"Our positive recommendations as to the all important question of timing the sprays is:

"1st. In every locality, until definitely proven that it can be omitted, spray at such a time as to leave a dose of poison in the blossom cup.

"2nd. One or more sprays for the spring brood of moths as determined by the breeding jar.

"3rd. Sprays against the summer and fall worms as determined by the examination of bands."

* * *

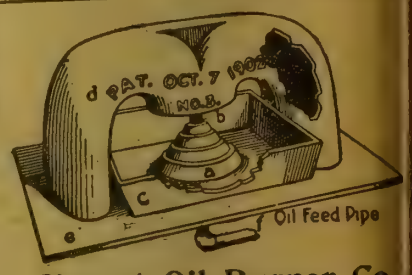
CAMELLIAS IN SACRAMENTO.

A. B. Nye, Governor Pardee's private secretary, has presented the Capitol Commissioners with a large number of Belgian camellias, which are to be used in the further adornment of the capital grounds. It is the intention to set these in masses in order to get the best effect. The selection is an excellent one, for there is no place on earth, we believe, where the camellia does better than in Sacramento. All the requirements for its growth are found here, a moderate temperature, moist soil and not too dry an atmosphere. The beauty of the camellias in the capital city is always a cause for comment on the part of visitors, and indeed they seem to grow here almost without attention. During the early spring months they bloom profusely and are altogether the most satisfactory shrub we know of for this section.

* * *

DRY OR WET SPRAYING.

Advocates of dry spraying and vendors of dry spraying apparatus are endeavoring to introduce this method into California to take the place of the present system of wet spraying. The dry spray has been extensively used in some of the orchard sections of the East and from reports seems to be satisfactory. In California it has not yet been tried to any extent, and it is questionable whether it would be as effective here as there, conditions and climate being so different. In the eastern fruit sections it is rare for a week to pass without some rain and the air is ever surcharged with moisture. In consequence the foliage of the trees is always damp and any dust thrown on it will adhere for some time at least. In California we have months without rain and with very little atmospheric moisture. In such case, will the dust form of insecticide remain on the tree long enough to be effective, or will it blow off, if not wholly, to so great an extent as to be valueless? Even in the East where conditions are more favorable for it, there is still a diversity of opinion in regard to its value as compared to the wet sprays. If the dust spray is as good, or any where near as good or effective as the wet sprays, it would be of great value in our State, especially in sections where orchards are located long distances from a water supply. In the Sacramento valley, for instance, there are orchards located miles from any water and where it is necessary to haul all the water required in the manufacture of the washes now used. This adds very greatly to the expense of spraying in such cases, and the use of a dry spray would be a great saving beside being much more convenient and easily applied. We should not advise any one yet to abandon the wash they are acquainted with and the effects of which they know, in favor of what may even be a superior one, but experiments with the dry spray are worth making and if they should prove as efficacious as those at present in use, they will work a revolution in our methods in many parts of the State.



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A WORD ABOUT FIGS: We sell the genuine Fig of Commerce. Our cuttings came from bearing trees in the orchard of the Stanford estate, near Vina, and the fruit from these trees, after being examined by the best fig experts of the State, is pronounced the genuine Fig of Commerce, the Lob Ingir. Dr. Eisen says this and no other variety should be known as Smyrna, if the name Smyrna is to be used at all. We can refer prospective purchasers to the Supt. of the Stanford ranch, at Vina, for a verification of this statement. As to my own reliability, I can refer parties to any of the leading merchants of Corning, and to the Bank of Tehama County, and the Herbert Kraft Co. Bank, at Red Bluff, Cal. No one in the Unites States originated the Commercial Smyrna Fig. It is a variety which has been grown in Asia Minor for thousands of years. Parties may originate a fancy-name and copyright it, but this does not make the fig they sell under a copyrighted name, any beiter. The fig we sell doss not require a high sounding name to make it appear as the only commercial fig. All that we claim for our fig is that it is known as the Lob Ingir, the cuttings of which came originally from the famous orchards of Smyrna, Asia Minor, and is of the variety so largely imported into the United States in the dried state. We are not charging you for a private copyrighted name, but we sell you good 2 to 4 foot trees of the Genuine Smyrna Fig of Commerce at $150 per M. To fully demonstrate the methods used by some nurserymen in giving old varieties of fruit trees a new name and thereby make it appear that they have the only genuine article, we will say, how ridiculous it would be if we copyrighted a name like "Muro" and sold the old variety of Muir Peach under this name. Do not be misled by copyrighted names. We have the genuine Smyrna Fig of Commerce and if you want to confirm our statement, we do not hesitate to refer you to the above named parties. We can supply prospective planters a small sample of our dried figs for comparison with the so-called copyrighted figs. We also have for sale all varieties of Capri Fig trees, and all of our customers will be supplied at the proper time with a colony of Fig Wasps, free of cost. Address

W. Herbert Samson, Prop., Corning, Tehama Co., Cal.

SEED BED STOCK...

Orange and Grape Fruit

Extra Fine Lot. Absolutely Clean

James Mills - Riverside, Cal.

BY J. W. MILLS, ONTARIO, CAL.

ATTRACTIONS OF THE DESERT.

The greatest charm that pervades the desert, as writers tell us, is almost wholly concerning the miner. This is not now the case in certain parts of the Colorado desert. Here, the farmer has gotten a foothold that seems to be a substantial one, and the regulation rules of farming are sometimes woefully out of place. Some of the strange sights and exaggerated growth of plants under irrigation make written descriptions savor of Rider Haggardism. We took a long drive over some of the "poorest" land in the heart of the Cahuilla district, where the encrusted surface seemed a mass of irregular blisters of dark brown soil. The wagon wheels went through it with a crushing sound similar to that caused by driving through a pond covered with thin ice. Inspection showed us that we were passing over a crust of salt—table salt—that was mixed with mud and dust. Beneath it the soil was moist and rich in appearance. We gathered up slabs of salt and dirt to take home and show our friends. Presently a bright green spot hove in sight, with what appeared to be a drift of snow around it. Near by an artesian well was spouting water into the air, the water being used to wash down and off the salt, so that the ground would be in condition to plant a melon crop. The land on which the barley was growing had been flooded, a ridge of soil having been thrown up around it. The barley had been cultivated in and the water turned on. The grain had made a growth of three feet and fairly covered the ground, no salt appearing on the surface of the soil in which it grew. The ridge of soil around it was snow white and crystals of salt even projected among the barley leaves along the border. Strange as it may seem, the barley next to this salt-covered ridge was the tallest and darkest green in color. The surrounding land, which had been flooded and left uncultivated, had the appearance of a snow drift and it was here that we gathered up some refined table salt, part of which we used on our hard boiled eggs at lunch time.

We came to a settler's shack, which domiciled an energetic farmer who was living out a homestead right. He showed us into his cellar, in one corner of which was his "time well," as we called it. The cellar was about six feet deep and a small hole was dug in one corner. At that time, the first of March, the water was nearly on a level with the cellar floor. The water in this hole rises and falls with the seasons as regularly as winter, spring, fall and summer come around.

Our wanderings finally brought us onto the higher and sandy lands where the artesian wells still spouted and where there was found no change in the soil, save an occasional layer of clay, for a depth of over 500 feet. Alfalfa sown on these lands in late winter, produced from four to six crops during the season. Alfalfa four or more years old produced from nine to ten cuttings. Asparagus was being shipped to the San Francisco markets by the first of March.

Many things of intense interest to the farmer could be told and while we have usually taken some of the reports from the desert with a "grain of salt," we have seen with our own eyes, farmers harvesting salt with their grain.

* * *

GRAPES FOR BLOOMINGTON.

Editor Cultivator: What varieties of table grapes are best adapted to our soil, sandy loam, stony in one or two places. The nurserymen I think of buying from recommend Black Morocco, Black Farrara and Black Cornichon. Is it advisable to plant all late or winter kinds?—Cultivator Reader, Bloomington, Calif.

Black Morocco would be all right with you and Black Farrara should do well, but Black Cornichon would not. This grape requires a heavy clay subsoil to do well.

The varieties of grapes which would be best for you to plant depends on what you expect to do with them. If you expect to grow them for peddlers or local trade, good varieties that come along during the whole season would be what you want. If you expect to ship, late grapes would be the best. Red Emperor would do better with you than Purple Cornichon. Golden Queen is an excellent late grape. It is exceedingly productive in our light sandy soil and does not crack after a light shower comes on it. It ripens between Thanksgiving and Christmas, but we have eaten good grapes from the vines as late as New Years. For a good September grape for local use, it is hard to surpass Cinsaut. It is particularly well adapted to gravelly places.

* * *

EASTERN GRAPES FOR THE SOUTH.

A great deal of attention has been given to planting our standard varieties of table grapes of European origin, but our native American varieties have not met with decided favor among the greatest number of consumers. There is complaint among a great many people that these grapes are "too foxy", they make mouth and tongue sore. We have found this true with some varieties, and the method of culture may also have something to do with it. We have noticed that some grapes which have not received enough water are inclined to have concentrated juice and a tough pulp. The sugar content is sometimes increased and the other properties are intensified. The Pierce grape is a splendid bearer and the fruit is fine, still there is the complaint that it is "too foxy" for the taste of some. We have mentioned that Agawam and Lindly were favorites. They are certainly as free from the defects mentioned as any grapes that we know of. Their beautiful, wine red color is uniform all over the berries, which are of good size, tender and juicy. Grapes of the same class, but not as large, have sold in the Los Angeles markets for better prices than our best standard varieties. The Worden has proved to be one of the choice kinds of eastern grapes in the foothills near the coast.

There is a growing demand for this class of grapes. The large number of eastern people who come to this State, "long" for a taste of this fruit after having eaten the numerous varieties that we have to offer them. We notice also that the native Californian relishes them even though he sticks to his Muscats. We are aware ourselves that though nothing can surpass the Muscat in our opinion, still we are acquiring an Agawam taste that is alarming. The Concord takes a back seat with us.

LIME, SULPHUR AND SALT WASH

For winter use upon deciduous trees for pernicious scale, curl leaf, peach moth, etc.

The following formula if properly prepared and used will prove an effective solution:

Unslacked lime, 40 pounds.
Sulphur, 20 pounds.
Stock salt, 15 pounds.
Water to make 60 gallons.

Directions.—Place 10 pounds of lime and 20 pounds of sulphur in a boiler with 20 gallons of water, and boil over a brisk fire for not less than one hour and a half, or until the sulphur is thoroughly dissolved. When this takes place, the mixture will be of an amber color. Next place in a cask 30 pounds of unslacked lime, pouring over it enough hot water to thoroughly slack it; and while it is boiling add the 15 pounds of salt. When this is dissolved add to the lime and sulphur in the boiler, and cook for half an hour longer, when the necessary hot water to make the 60 gallons should be added.

Follow the above directions carefully, particularly the boiling, if you desire success. Use this remedy as late in the season as possible. The best results will be obtained by spraying just before the peach trees burst into full bloom. On cloudy, moist days blossoms will not be injured by this wash, but in dry weather with north wind blooms will be damaged if full strength is used.

Copies of this formula will be sent free to fruit growers of the county. —R. C. Kells, T. B. Hull, H. P. Stabler, Horticultural Commissioners, Sutter county, Yuba City.

The J. W. Armstrong Nursery Co., of Pomona, who are large handlers of deciduous and citrus nursery stock, write as follows:

"We assure you we most highly appreciate your kindness is placing us in a position to secure business. We already feel that the numerous letters we receive through the medium of your valued publication has amply repaid us. Trusting we may have the pleasure in the near future of reciprocating, we are, yours most sincerely, J. W. ARMSTRONG NURSERY CO.

One of the Cultivator subscribers suggests that the reported rich findings of gold near Kingman, Arizona, are only a part of a "gold brick" scheme of the first water. In any case, the Cultivator readers may be wise to investigate thoroughly before parting with good money.

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AND BE PROTECTED

If you want trees that are true to name and are hardy, buy from us.

ROEDING TRUE TREES FRESNO, CAL.

If you want a quotation that is right and advice regarding rarities write to us.

DECIDUOUS CITRUS ORNAMENTAL

Our immense business is the result of an absolute guarantee that the trees are true to name, the completeness of our assortment and the sturdy health of our stock.

Growers are safe if they buy Roeding Trees. We grow everything that is in demand, but our great specialties are

CALIMYRNA FIGS ORANGES GRAPES ORMAMENTAL TREES ROSES

Calimyrna Figs are the genuine Smyrna Figs of Commerce. You are safe if you buy them of us direct, because the seal shown here is a guarantee of genuineness.

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NEW CATALOGUE
Our new 1904 catalogue is complete in every detail and contains abundant, valuable information. Either English or Spanish. Mailed free for 5c postage

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"The Smyrna Fig at Home and Abroad," by Geo. C. Roeding, is a comprehensive and interesting treatment of the subject. Mailed prepaid for 25c.

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Richman & Mills, Props. FULLERTON, CAL.

Make Your Own Fence...

We will furnish the wire at 2c per pound, No. 14 guage. Weighs about 1¼ pounds single strand per 100 feet. Figure it yourself and get a good fence cheap. You make mesh or openings to suit requirements. This is galvanized wire that has been used for other purposes, or it would be worth two or three times our price. Remit for amount required and get quick shipments. No quantity under 100 pounds supplied.

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Conducted by PROF. A. J. COOK, Claremont, Cal

CONSERVATION OF MOISTURE.

All of us are too likely to follow in the old grooves. Even when new conditions arise, and when thought should hurry us to vary our practice, we are still too apt not to think and go on in the old course, often to the serious stay in our success. We all know that water is the crying need of our orchards. This year we have so little rain that the growing season is likely to come upon us with far less than the usual amount of water in the ground. Unless we have water now to give the ground a good soaking, we shall be obliged to give more than the usual water next season or else our orchards are likely to feel the want of moisture seriously.

* * *

Conserve the Moisture.—Because of this lack of moisture, we should give the matter of water conservation unusual consideration. The wise orchardist will try every way to save the water. What can we do to help out in this emergency. If we have already plowed under a generous crop of legumes—Canadian field peas fill the bill well—this will help wonderfully to increase the water content of the soil, so that we will be called to water less than we otherwise would. Whether we have been so provident or not, it will pay us well to keep our ground so as to capture every drop that does come to us through the rains that will come to us from this on. We will also cultivate as soon after every rain as is possible, that we may keep the perfect dry earth mulch, and prevent all the evaporation that we possibly can. Deep plowing will help to capture all the rain, and a deep mulch will help to keep it. If the ground is left not too smooth it will also keep the rain water from flowing off, and hold it where it is needed. As the season goes on we must keep the soil loose and friable, and must cultivate often enough to ensure this. I believe that this fine soil must be at least six—James Mills says eight—inches deep to secure the best results. How few do this; and yet it will pay a tremendous bonus on the expense of such cultivation.

Again a great deal is lost by the quite too common way of irrigation. Instead of the usual shallow furrows, these should be deep. It will pay to have them at least one foot deep. This puts the water down where it is needed, and the least possible amount is lost by evaporation. We must remember that all of the water that goes to wet the upper eight inches, and the most that wets up the upper foot, is lost, as it all evaporates. At the Arlington orchard, they not only run the water through deep furrows, but they make a furrow between each two rows at right angles to these, which is made to do service, and works to put more water deep down in the soil.

One more thing will help to conserve the moisture, and I regret to say that some of our good fruit men are careless in the matter. I refer to leaving the ground smooth after cultivation. Ridges permit our daily winds to lap up the moisture in a most extravagant fashion. Millions of gallons of water are thus lost to our soils each season. Some run a board smoother over the ground after cultivation. If this has myriads of small teeth in the hinder margin it not only levels the ground, but it also leaves it loose at the same time. Mr. Mills prefers a weed cutter for this work as he thinks it serves less to compact the soil and thus less evaporation is experienced. Where there is considerable clay in the soil, this last point is to be closely watched. If a good "cover crop" will make one or two irrigations enough, for the season; if we catch all the rain that comes, if we make the best use of "dry earth mulch;" if we plow once or better twice deep down; and if we keep the land level and friable at all times, we may still smile, though the clouds are few and stingy.

* * *

DESIRABLE CLIMBING ROSES.

Mrs. P., subscriber, from North Pomona, asks what I like best of the roses to climb over the house. I suppose that any one that has seen our house needs no assurance that we like not only climbing roses, but climbers of all kinds. This question properly belongs to Mr. Braunton, but I know better than even he can what does best on our house. Let me say that we do not let the vines recline or rest on the house, but put up wire netting, or an iron frame work. I think that this is not only better for the house, but it is easier if we wish to paint, as we shall wish to about every seven or eight years. One of the most satisfactory roses is the beautiful white, long blooming and ever vigorous Lamarque. Two roses that we enjoy very much are the Beauty of Glazenwood, usually called the Gold of Ophir, and the large single Cherokee. The former is beautiful salmon pink, the other snowy white, which forms a fine contrast with the yellow stamens. These are very full of thorns, and are not long in bloom. Yet their healthy foliage makes up in part for the brief blooming season. I would never put these near a hydrant, or near the oil tank. Speaking of thorns, we rejoice in the Banksias, the yellow and white. These are always pretty and ready for business. They have no thorns. So "every rose does" not "have its thorn." They are prolific of bloom, and are like the others just mentioned, most wondrously attractive when in bloom, which we wish were of longer duration. We are very fond of our Reve d'Or. It does very well, blooms a long time, and the yellowish-white flowers are very pleasing. We like the Crimson Rambler, which, with its cluster of dark red flowers is very charming. The rich, red elegant Reine Marie Henriette we would not set again, as it costs too much to keep it free from mildew. Neither would we plant the Marchel Neil, as the buds blast in a most provoking fashion. As Mrs. P. is so near us, I think these hints will be an aid to her. It will be seen that we give old roses. We have no prejudice against the old, well tried friends, that rank as do these plants just commended for climbers.

* * *

INSECTS ON CELERY.

M. C. Cole, Santa Ana, has written me twice about his celery. He has now sent me a sprig which is bleached in a way that seems not to please Mr. Cole. A careful examination finds abundance of red mites and numerous thrips on the plant sent. Either of these would acount for the lack of vigor of which Mr. Cole complains. These are both serious pests, as the citrus growers too well know. I have no doubt but that spraying with distillate spray which has been found so valuable in the citrus orchards, against the scale insects and the red mites, would prove equally effective in the celery fields. I should go slow until I had proved the remedy. I believe a two and one-half per cent mixture would not harm the plants and would kill all the pests, of both kinds. This could be applied easily and cheaply by use of the same machines that are used in the orchards. These stir or churn violently as the mixture is applied, and so this mechanical mixture is applied safely and has proved wonderfully effective in our warfare against the orchard and garden pests. If we could have pouring rains these pests would be destroyed in such numbers that they would do far less mischief.

* * *

EUCALYPTS FOR PILES.

M. C. Cole, Santa Ana, asks for the best Eucalypts for piles. The common blue gums have been grown very successfully for this purpose. I know of a gentleman of Carpenteria that has found his blue gums for piles very profitable. He cuts them and lets them grow up again. He sells them for a high price. He uses them in a double row as a wind break, and by cutting alternately, he preserves his wind break and reaps good profit besides. The soil and climate conditions at Carpenteria, I should not think greatly different from those at Mr. Cole's place in Orange county. Without doubt Mr. Cole would find Eucalyptus rostrata and E. citriodora good for the same purpose, and they would almost surely do well on his place, as they take to moisture in soil and air. He might try all three of these species.

* * *

EASTERN GRAPES.

Mr. Cole also asks why eastern grapes do not do well here. They do especially well in such localities as that of Mr. Cole. I never saw better Ionas than I have seen and eaten, grown at Goleta. The Delaware and Niagara do well there and the Worden Concord, and those splendid varieties of the Rogers' Agawam and Salem are superb. I have all of these, and while my others are all going with the Anaheim disease, these seem all right. I got mine at the Fancher Creek Nurseries, Fresno.

KLEVERS MODEL NO. 29719

BRED BY E. KLEVER BLOOMING BURG, O.

THIS HOG WAS SOLD FOR $5,100.

and the man that bred him is a user and friend of Prussian Stock Food, the great Conditioner and Flesh Producer for Cattle, Horses, Hogs, Sheep, etc. He has

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and says he thinks it is very good. He fed it to some pigs and it cleaned the worms out of them in a hurry and he never had pigs do better.

Horses will be kept healthy and will do more work on less feed.
Cows will give more milk and be free from disease. Makes calves grow.
Hogs will grow and fatten in much less time and on less feed and be healthy.

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If it's an all around Ladder you are wanting our "ACME EXTENSION" can't be beat. A double Step Ladder and a Straight Ladder combined. Built of best spruce lumber, every step bolted and riveted throughout, with new automatic lock. Circular free.

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Trees are strong, vigorous, healthy. No Red Spider. No Black Scale. Do not forget this. Going out of the business. Want to sell. Come and see us.

Mills & Masters

Jas. Mills, Mgr. **Riverside, Cal.**

"The Orange and Lemon vieing with each other in the production of wealth."

Thomson's Navel Orange Grove seventeen months from planting. Eureka Lemon Grove seven years from planting.

Just Good Citrus Trees

Is the strain of the song we wish to sing to intending planters this week, because the planting season is now on and it is the part of wisdom to get your trees into the ground. Of course you want good nursery trees, which fact leads us to state that we can meet you as to quality as well as price.

Profitable Citrus Orchards

Are pictured in the two illustrations herewith presented, both of which show trees furnished by us. Did you ever see a finer, symmetrical growth or a more vigorous stand of trees in orchard rows? This is the kind you want, and if you plant our trees it is the kind you will get.

How to Grow Money

With an orange or lemon orchard is tersely explained in our little booklet "The Yeas and Nays of Citrus Culture," which contains more practical information to the square inch than any other similar publication. If you will write us the number of trees you may want, and mention this advertisement, we shall be pleased to send you a copy. Correspondence a pleasure.

San Dimas Citrus Nurseries

LARGEST GROWERS
CITRUS TREES
IN THE WORLD.

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"In the Senior grade, almost ready for graduating into the fruit-bearing class."

Washington Navel Grove, third year from planting.

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Wells drilled in first-class manner from six inches diameter to any size desired. Pumps instal'led

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20,000 Citrus Trees

Now ready for delivery. Washington Navels and Late Valencias. First-class, reliable stock. Get our prices before buying.

POLLARD BROS.

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Home grown, true to label, will GROW—not stand and sunburn

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There is none better and our prices are the lowest. All home grown and only handled once

—OUR CITRUS TREES—

when seen on your neighbor's ranch, will make you sorry that you did not buy of us. Our prices are right and the trees will grow. Write us today for prices.

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Orange Trees

First-class, Stocky Navels and Valencias. Headed at four feet.

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THOMAS PHOSPHATE POWDER

For Sale by BALFOUR, GUTHRIE & CO. San Francisco, Fresno and Los Angeles, Cal. Write for pamphlets and prices.

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Vernon Nursery

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LOS ANGELES, CAL.

Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.

We still have a few of the finest two-year-old walnut trees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

A. YARNELL.

PROPRIETOR

4524 CENTRAL AVENUE

LOS ANGELES, CAL.

Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

MISCELLANEOUS.

New, clean pure alfalfa hay is being offered at Riverside at $9.00 per ton.

The Porterville $25,000 high school bonds were sold to the State last week at a premium of $825.

The cement works at Napa are building an addition, 60x80 feet, to increase their grinding department.

Citizens of Napa are at work raising funds to secure rights of way for a new steam road from that place to San Francisco.

The Puente Oil Company has broken away from the Standard Oil Company, and will erect a refinery and market its own product on the coast.

The Pinal Oil Company at Santa Maria, on Tuesday, struck oil in its fifth well at 1900 feet. The well flows about 250 barrels a day.

The Union Oil Company, operating in Santa Barbara, is about to locate at Lompoc a refinery which will be adequate to every emergency.

In Ventura the authorities are using the tramps on the streets with good effect. They are made to clean the public highways and public lawns.

Pasadena has an ordinance which went into effect Saturday regulating the sale of milk. The Board of Trade made the ordinance very stringent.

Report comes from Napa county that Texas fever has broken out among cattle recently shipped into the county. Over 500 cattle are affected.

State Mineralogist Aubury declares positively that the claim that radium has been discovered in Mariposa county, in this State, is a fake pure and simple.

The Board of Supervisors of Napa county have purchased a ton of poisoned wheat, which is being given out to farmers who will use it to exterminate squirrels.

An oil pipe line will be built this summer from leading oil fields to the bay. The right of way has been secured to Monterey except three miles which will be appraised.

Articles of incorporation of the Oxnard Light & Water Company have been filed with the county clerk. Five directors have been chosen and the company will go to work at once.

Applications for stock in the Bank of Solano, the new financial institution in that place, poured in so rapidly that within twenty-four hours the hundred thousand dollars capital stock was subscribed.

A merchant freight line has been established between Los Angeles and Riverside. The teamsters deliver the goods at some less than railroad rates, besides saving drayage at both ends of the line.

Herman Dickel, of Anaheim, sent a small box of oranges addressed to a relative, in Germany, which has been returned with the statement that the fruit can not be admitted into the country for fear it may be infected with San Jose scale.

Squatters are charged with a scheme to locate on the Griffith Park lands, some 3015 acres donated by said Griffith to the City of Los Angeles, Griffith, it is alleged, had no title to the land and therefore could not donate it to the city.

The report telegraphed from San Quentin of a shortage in the prison accounts is emphatically denied by Director Felton, the warden, and Gov. Pardee. The fact that the jute bags were not all taken by farmers who made a small deposit on them, has not created a shortage in the prison accounts, as was claimed.

Saratoga, Santa Clara county, will hold its annual blossom festival on April 1st this year. This event has grown to be very popular, many people going long distances to witness the beauty of miles of blossoms in and about this mountain town. San Jose will hold its blossom festival the day following the Saratoga event.

Reports from the irrigation experts of the Department of Agriculture and the University of California upon the drainage systems necessary to save the vineyard and orchard lands in the vicinity of Fresno are to the effect that the alkali which has proven so stubborn to overcome is easily subdued by draining the lands. Heretofore water brought the alkali to the surface, doing immense damage to the orchards.

According to a dispatch from San Rafael, the San Quentin jute mill has a surplus stock of 4,000,000 bags. The mill made and sold 6,000,000 and sold all of them on a deposit of 10 per cent. The shortage of the grain crop caused those who made purchases of bags to forfeit their advance payment. The mill is turning out 18,000 bags per day. There will be plenty and to spare.

The people of Covina are aroused over the shooting of song birds by boys with air guns and nigger shooters. They propose to prosecute all boys who hereafter are caught shooting birds.

James Irvine, owner of the San Joaquin ranch, near Santa Ana, is to divert a considerable portion of the waters of Santiago creek to irrigate a tract of land in the Santiago watershed, which is now used for grain and pasture; the land so irrigated to be set out in fruits. The hillsides now producing fine grain and pasture, it is believed, will produce fine fruits.

It is announced that the San Mateo county authorities will this year build three miles more of oiled roads. Last year they built three miles of country road and oiled two miles of streets. While at most places the practice has been to use from 150 to 300 barrels of oil per mile, the San Mateo roads were given 940 barrels per mile. The Sacramento Union gives the following as the method in building the roads, which is very expensive but very satisfactory: The soil of that county is largely a gravelly loam, and being generally undulating, a suitable grade was first established, thirty-five feet wide, turnpiked the same width, and then the crown for a width of twenty feet was replowed so as to give it a uniform looseness, and harrowed. The oil was then applied, moderately heated, until the ground would absorb no more. The twenty-foot strip was then replowed, turning the oiled matter under and the dry earth to the surface, which was then harrowed smooth and oil again applied until it would absorb no more. Then the road was harrowed until the oil was thoroughly kneaded into the ground, after which it was rolled many times, giving a tough, elastic surface from six to eight inches thick. The oil used, having a specific gravity of about sixteen degrees, was obtained from Kern county at a total expense, applied to the road of $1.25 per barrel.

The Agricultural Department at Washington has engaged E. M. Ehrhorn of San Jose, to keep a record of blossoming and ripening of all varieties of fruits. There is much to be looked up and learned in the matter of blossom and harvest times, all bearing directly upon the success of the grower. It will be observed that in addition to these two seasons in the life of the tree and fruit, the department desires to know the date when the terminal bud forms. This is the last bud on the tip of the limb, and it usually appears about the middle of June.

It is expected, among other things, to learn from a record of this kind something more tangible concerning the fertility and non-fertility of blossoms.

Every grower should assist in this important work for it will prove of immense value to all growers in this State.

Thoroughbred Scotch Collie Pups For Sale.—Potter Ranch, Alhambra, Cal.

Carney's Great Co-Operative Club $1

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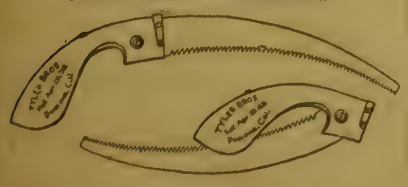

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GEO. R. TYLER Pomona, Cal.

Coast News and Notes

CONTINUED

LIVE STOCK.

Sheep shearing has begun actively in Kern county.

A violent form of distemper has broken out among cattle in the foothills near Madera.

The Julian Miner of last week says: Some cattle are dying in this section, mostly cows, they all being affected in the same manner, a sort of paralysis of the hind quarters, showing that it is a disease caused by climatic and other natural conditions. The mortality is confined principally to stock raised on the coast, where the natural conditions of the pastures are quite different from the mountain ranges, and it takes a long time for cattle to get used to the different qualities of grasses and the ways mountain stock have in hunting for feed.

AGRICULTURE.

A San Diego florist cleared $1500 on carnations during last summer. He expects to double his sales this year.

Poor business management is alleged to be the cause of a deficit of $72,630 in the accounts of the State Agricultural Association.

San Jose farmers give out the information that enough rain has fallen in that locality to insure all crops.

The California Vegetable Union has just closed a contract with the cabbage growers at Placentia to handle the entire crop of the district on the same terms as last year.

The storm of March 10th, while exceedingly severe and damaging in the northern part of this State, did untold good to ranchers in Southern California. The hay crop is now practically secure.

Dr. A. A. Maulhardt, of Ventura county, is going extensively into the raising of ginseng. With Dr. Maulhardt are associated Louis Maulhardt and J. B. McCloskey, of San Francisco, an expert ginseng grower.

A. W. Browne, of Ventura, has sold his Las Posas ranch to Fred Roussey of Oxnard. The ranch comprises 420 acres and was valued at $13,000. Mr. Roussey gives part cash and his business in Oxnard, which will be conducted by Mr. Browne.

A new grain distillery is soon to be established at Hanford. There is only one other grain distillery in operation in the State, that being located in San Francisco. The Hanford distillery will be of small capacity, having an output of about 10 gallons per day. The material will be corn exclusively.

Judge Ogden, of Oakland, has granted a permanent injunction restraining the smelter in Alameda from operating on the ground that it is injurious to the vegetable growers of that locality. The Encinal says: "The smelter owners will, of course, appeal from the decision, which means ruin to their large investment."

There are tracts of native hay lands in the great Yukon valley, Alaska, highly valuable. Last fall. J. A. Rouse, a Dawson freighter, put up more than 600 tons. He sold 600 tons at $140 per ton—$84,000—and had sufficient hay left to feed quite a herd of stock until good grazing comes again. It netted him not less than $80,000.

The Fresno Democrat, in discussing the raisin situation, says there are only 2 blocks of goods in the hands of the outsiders. The larger is held by the Droge Fruit Company, which recently purchased the goods of W. A. Nevills. The other is held by Fred Ward, and consists of about 150 tons. The last named is the only block of consequence that remains in the hands of the grower. As soon as these lots are sold, there will be nothing but association raisins to buy.

HORTICULTURE.

The railroads are promising the orange shippers enough cars from this time on, to take care of California's citrus interest.

A Fresno packer estimates that there is less than 40 cars of the 1903 crop of peaches in the State, and these will be quickly bought up.

The supervisors of Santa Cruz county have been asked to appropriate $500 to help carry on the codling moth investigation this summer.

The Santa Fe road, with its 4500 refrigerator cars, will make an effort to secure its share of hauling of the coming deciduous crop in Northern and Central California.

The San Jose Herald is making a telling fight against the sale of wormy apples, contending that the trade on first-class fruit is injured by the sale of infected apples.

At Corona, groves amounting to nearly 3000 acres have been sprayed or fumigated for the eradication of insect pests since October 1. Aside from that work, town lots infested were also treated.

At the recent meeting of the Zante Citrus Association, held at Porterville, the following resolution was unanimously adopted: That it is the sense of this meeting that the Zante Citrus Association maintain its organization intact, and leave the marketing question open until later.

The Golden Nugget Navel orange is said to be an improved variety of the navel. Of the Japanese oranges the Oonshiu is said to be one of the hardiest and easiest grown, and the Dancy Tangerine the best of all. Oranges may be planted at any time, from now to July, on irrigated ground. —Chronicle.

J. H. Reed, an orange grower of Riverside, has been making some special observations regarding the picking of oranges. He finds that the best plan is to relieve the trees gradually, going over a part of the orchard at different times. This, he claims, gives the fruit left a better chance to mature and also is beneficial to the trees themselves.

W. W. Phillips, E. B. Hutchinson and C. W. Chauncey have been appointed horticultural commissioners of Fresno county. One of their first official acts was to purchase two tons of squirrel poison, which will be sold in 50 pound boxes to farmers, at three cents per pound, and in smaller quantities at five cents.

The orange growers in this section, says a correspondent from Redlands, as the returns from the January pool of the Citrus Union come in, begin to feel more cheerful. Instead of the expected "red ink" returns, the union has made a second payment, making a total of 80 cents per 100 pounds thus far, and another payment coming. The car famine has been partially broken, and with a better market in sight, it is believed the balance of the crop will bring better returns.

The Sacramento Union makes the statement that the Sacramento County Horticultural Society has awarded a contract for spraying of neglected, scale-infested trees within the city limits. A scale-infested tree is a diseased tree, and those who keep their trees clean are entitled to have the danger which it is to their well-kept trees removed. On this principle authority to spray neglected trees has been given the Horticultural Commission. Not only will the country districts be protected by spraying of the city trees, but the trees will be given new life, resulting in better growth, better appearance, and, in the case of fruit trees, better yield.

MISCELLANEOUS.

Visalia will advertise for bids for oiling streets of the city.

The Carnegie library at Fresno will be completed by April 1st.

One hundred Russian colonists are at Anaheim with a view of locating there.

A second national bank is to be established at Imperial with a capital of $50,000.

The city trustees of Pomona, at their last meeting ordered extensive street improvements.

RAIN! RAIN!

I have a few thousand

Washington Navel Orange Trees

One and two years old at a very low price, to clear ground for replanting to orchard. Some one will get a snap in first-class trees. True to name and thrifty, healthy stock. No scale, no frost. Come and see.

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Sweet Orange, Sour Orange, Pomelo and Citrus Trifoliata, also Valencia and Navel Buds. Stock clean, thrifty and first-class in every respect. Write for prices before you buy. Now is a good time to plant, get your order in early.

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We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand

Roses, Palms, Ferns, Vines, Ornamental Shrubs, Etc.

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Apricot—Blenheim, Hemskirke, Moorpark, Bragetti, Montgamet.
Peaches—Muir, Lovell, Foster, Salway, Phillips, Nichols and Tuscan Clings. etc.
Prunes—French, Imperial and Sugar.

Almonds, Walnuts, Etc.

Trees grown on new soil and free from disease. Buds cut by myself from our own bearing trees and absolutely true to name. Prices right.

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CITRUS TREES

All the leading varieties. Best trees and lowest prices. Orange and Trifoliata Seed Bed Stock. Correspondence solicited.

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$240 FOR LARGEST WATERMELONS

After 40 years of experimenting and testing all notable varieties of watermelons, we now recommend, especially, "Tenderseed" for home use and "Emerald" for both home and market. We think they are the best obtainable. Seeds 10c a paper in silver. 2400 papers. The purchaser who grows the largest melon of either variety will positively receive one-tenth of our gross sales of seeds of that variety. Caution: Wrap your silver in a little paper, and write your name and P. O. Address plainly.

LEE SEED CO., Burnt Corn, Ala.

C. H. SESSIONS, ASSOCIATE EDITOR

SEASONABLE PLANTING.

Mrs. Minna E. Sherman.

The fruit grower who does not keep a few cows to furnish fertilizer for the orchards is working at a disadvantage and losing a way of increasing his crops without expense, and if he keeps good cows they will bring him a revenue between seasons. In Germany herds of cattle are often fed without a thought as to the labor, simply having to pay for the food consumed, the profit being from the manure, that will in turn produce another crop that is the money-maker.

Wherever it is possible between the rows of orchard trees to grow a crop of cow peas, they should be planted, the tops cured into hay while the peas are soft, the roots plowed into the soil leave there a quantity of nitrogen in an available form for the trees. This crop during the late summer and fall is grown and off the ground in time for the spring cultivation, so the supply of moisture is not exhausted in the soil.

A few acres of land allotted to the cows will balance a fruit ranch nicely, and, first of all, a small patch of alfalfa should be sown, while a small field is reserved for the soiling crops. This in the autumn may be sown to rye, barley or wheat. However, after frequent trials, in the interior, where the frost is too heavy for cow peas, we plant the common table pea, usually preferring the Niles, as it makes heavy leaf growth, with the red Russian oats. The land is freed from stubble and weeds by raking and burning, the peas are sown broadcast, at the rate of ten to twenty pounds to the acre, then plowed under, the field is well harrowed and the oats sown and crossed with a harrow to cover it lightly.

The cow pea, which is really a bean, can be treated in the same way. These crops are made into hay or into ensilage when the oats is in the dough stage of ripeness.

After the pea crops are harvested, the land is plowed and planted to corn. If this corn is for soiling or for silage, plant it with the corn planter in rows instead of hills. The rows should be four feet apart; when grown in this way, the stalks remain slender and the leafage is greater. When the corn is planted in hills and given plenty of room it grows rank and the stalks are tall, leafless for the first four or five joints. This tall corn is poor feed, we might as well give the cows Arundo Donax to chew, for it is only a little tougher than some of the corn stalks exhibited, as showing the wonders of California at the Chamber of Commerce rooms throughout the State. The field of corn that averages seven to eight feet in height with abundant leaves affords the best feed; corn of this height will come close to twenty tons to the acre when cut for silage, while the corn with larger stalks will fall under fifteen, so the height does not make up in tonnage for the loss of leaves. The corn association is doing good work along the lines of selecting and perfecting the varieties. There is gained an increase of twenty per cent in leaf and in grain in these improved forms the first season they are sown in California. These experts send out the corn on the cob, every ear is perfectly filled, with even sized grains on small cobs. It shows its breeding the same way as cattle—in its uniformity.

Indian corn can be planted from March to July and mature a good crop. For the past eight years we have put the corn into the silo, excepting one season. That one experience we hope never to be foolish enough to repeat, but we will tell you about it. After selling one hundred and fifty milk cows and several carload lots of heifers, the milking string was reduced to forty head. The corn sowing was neglected and no silage made, for the cows seemed a mere handful to feed. The winter came and it proved cold—the green feed did not come, the hay went short and then came buying of hay and adding oil cake to the ration, still the milk yield dropped down until the cows were only averaging 21 pounds daily. Worse than that, they did not look sleek and fat, though they were fed all they should have of the heavy grains. It was the meanest looking lot of cows ever on the ranch. The next spring how the men hustled to put the first crop of alfalfa into the silo for them, and how anxious every one was to see plenty of corn sown. Some of the old hands that had regarded the making of silage with suspicion as to its paying, now became the warmest advocates of the silos. The corn has been planted so faithfully every year since that we have had more than the silos would hold.

The common stave silos have been in use at Los Palos for three years and even in the heat of the San Joaquin valley have proven successful, so the expense need not deter anyone from trying the experiment. With a silo well filled dry years are successfully bridged over at a low expense for feed. If the winter proves wet and feed comes on early, the silage left over is good for the next season. When the new crop is ready it is cut and put on top of the old silage. Our large three hundred and twenty ton silo at one time had three layers of old silage under the fresh one, and how glad we were it was there when the dry years came, for it was enough to carry the cows and the young stock until the welcome rains made the grass green once more.

The principal catch crop used is sorghum for summer soiling. The early amber or sugar sorghum, has the seed drilled in rows, so it can be cultivated and irrigated in one direction. It produces a crop of leaves every five or six weeks; it should be cut whenever it begins to form heads at the second joint from the ground. It is then fed green or cured into hay. The first cutting of sorghum should give from three to five tons of green feed to every acre. We usually make three cuttings and consider fifteen tons to be an average crop for the season; the last crop is pastured. This has to be carefully done, leaving the cattle on the field only a few hours at a time for fear of bloating. In the feeding of sorghum care must be used, the freshly cut stalks should be widely spread on an alfalfa pasture so the cows cannot pick it up too rapidly. It is generally conceded that sorghum bloating does not differ from alfalfa bloat. There is, however, a few cases of sorghum poisoning reported every year. Why or how the sorghum secretes at times prussic acid has not been determined. The experimental stations of Nebraska and Colorado have found in fields of sorghum where cattle have died, that the leaves of the sorghum had as high as fourteen per cent of the weight of the entire plant of prussic acid. The cause of this secretion is unexplained, varying conditions of heat, moisture, under cultivation, have all been considered and dismissed as untenable; so far the experts are completely at sea. While there are other plants recommended from time to time, still we dairymen of California, with our fields of alfalfa to feed green or as hay, and corn, green or as fodder, or better yet, as silage,

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Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
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Orrick, No. 183,987
Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.
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California Stockmen's Favorite

Used by 80 per cent of vaccinating stockmen in California. Early vaccination is good insurance. Write for description of our Black Leg Pills and Injector for using them. They are safer and easier used than either the string or powder vaccine.

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If your druggist does not stock our vaccines, order direct from us, we pay all charges.

have a complete food when we balance the two against each other. A herd of cows fed thirty pounds of good corn silage and ten pounds of alfalfa hay will produce milk at a cheaper price per pound than when on the heavier grain foods. There is a higher condition of health and the dreaded milk fever and the lesser loss, though often serious enough, of garget, rarely appears in the herd where the feed is of this form. It aids digestion, and yet, if well balanced, to furnish the required nutriment to produce milk and to sustain bodily vigor.

BLACK LEG.

The vital interest in that dread disease of stock caused us to ask Mr. Cutter, of the Cutter Vaccine Co., to supply our readers with some information on the topic and the benefits of vaccination of young cattle. From the matter which he sends, which we are compelled to condense, we take the following:

Black Leg, symptomatic anthrax, or quarter ill, was formerly supposed to be a form of anthrax, but is now known to be an entirely different disease and due to a different germ.

Black leg is a disease caused by germs, which enter the body sometimes by means of food or drink, but usually through scratches or wounds in the skin. The spores of this germ are very hardy and will live in a dry state for a long time, and are easily carried from one ranch to another by animals or man. They can also be carried by running water.

Symptoms.—Black Leg has a very rapid course, which, with few exceptions, ends in from one to three days. It is characterized by a rapidly increasing swelling of the skin, which crackles on being touched. This is due to the gas contained in the tumor. The swellings may appear on different parts of the body, and are chiefly formed on the upper part of the thighs, neck, shoulders, lower region of the chest and loins. They never appear below the hocks and knees.

The swellings are at first very small and painful. They rapidly spread, may attain extraordinary size in a few hours, and may even extend over the whole trunk. They become cold, and no pain is felt by the animal when an incision is made into them. After incision, a dark-red, frothy, unpleasant smelling fluid flows from the wound. General symptoms are sudden suppression of appetite and rumination, high fever, lameness and dragging of legs. Breathing becomes difficult.

Post-mortem examination discloses the connective tissues in the region of the swellings to be infiltrated with blood and containing bubbles of gas. The muscles underneath the tumors are of a dirty brown or even a black color. They are brittle, rotten, porous and rich in fluids. The blood is of normal color and readily coagulates; the spleen is unchanged.

Animals Affected.—This disease affects cattle, sheep and goats. The cattle commonly affected range in age from three months to eighteen months. Ocasionally calves under three months and cows over two and one-half years years old are affected, but this is the exception.

Treatment.—Owing to the rapid and violent course of the disease, treatment is of but little value. Various kinds of remedies and methods have been tried, but without success, and in many instances worthless substances have been placed on the market and sold as vaccines, such as ginger, garlic, asafoetida, mustard, etc., and setoning, rowelling, bleeding etc., have been practiced. These drugs and methods are absolutely worthless, and bleeding, hoof-splitting, etc., not only aggravate the disease in the sick animals, but the bloody, serous fluid carrying the germs of the disease, is scattered over the ground, thus endangering the lives of the well animals.

The only method of combating the disease is to prevent it by vaccination.

Vaccination for Black Leg was introduced by a French scientist named Arloing in 1883, but his methods were improved upon and modified by Kit, a German scientist, and the latter's process is the one universally adopted. During the last fifteen years many million head of cattle have been vaccinated with great success. Indeed, the cost per dose is so insignificant and the results so satisfactory that vaccination is looked upon as indispensable by large and small cattle growers. The method of vaccination is so simple that it can be carried out by any intelligent stockman or veterinarian. Immunity usually lasts a life time. There are exceptions, however, which we make under head "Age to Vaccinate and Susceptibility."

Time to Vaccinate.—Vaccination may be performed at any time, but the spring or fall is preferable. It may be done at branding time, but should not be done at same time as dehorning, castrating, or other surgical operations.

Age to Vaccinate and Susceptibility.—These two subjects are so interwoven that they are better considered together. Of cases of Black Leg occurring under 5 months old, statistics go to show that:

One-half of 1 per cent of deaths occur below 1 month old.

8 per cent of deaths occur between 1 and 2 months old.

13 per cent of deaths occur between 2 and 3 months old.

38 per cent of deaths occur between 3 and 4 months old.

41 per cent of deaths occur between 4 and 5 months old.

Above 5 months old calves are usually classed as 6 months old, so statistics for the month between 5 and 6 are unreliable. The most susceptible age is between 6 and 18 months old, and it is unusual for animals over 2 years old to be affected except in very virulent outbreaks. Statistics also go to show that pure blooded or high-grade stock are earlier affected than low-grade range cattle. This being the case, the safest method with graded stock would be to vaccinate at the age of 3 or 4 months, and re-vaccinate 6 months later. This would entail very little extra work or expense, as calves vaccinated in early spring could be re-vaccinated when late spring calves are vaccinated in early fall. These latter calves could be re-vaccinated the following spring. Of course these rules should be varied according to the experience of the individual stock owner. If he has observed that his calves are susceptible to Black Leg earlier or later than 3 or 4 months he should vaccinate accordingly.

The objection, however, to vaccinating calves under a month or two old is that usually they are not susceptible to the disease at that time, consequently the vaccine does not "take", the animal is not protected, and becoming susceptible later may contract the disease.

As before noted, in case calves are vaccinated at 4 months (or even later), it is much safer to re-vaccinate them at the time younger calves are first vaccinated.

Re-vaccination is advised in such instances:

First—Because there may be individual cases which were not suscpetible to Black Leg at time of first vaccination, and which are therefore not protected by that vaccination.

Second.—Because the immunity conferred by vaccination of very young calves is sometimes short-lived, and a calf successfully vaccinated at 4 months old may become susceptible again at 10 or 12 months.

Third—Because after revaccination the possibility of contracting Black Leg is so remote as scarcely to exist.

There are various forms of vaccination. Single vaccination in which sufficient is applied at once, and used generally in stock on the range in large quantities. Double vaccination, sometimes for more valuable stock, when a weaker dose is given at first, followed by a stronger.

Then there is powder vaccine which is mixed in water and injected; string vaccine, which is an absorbent card impregnated with vaccine which, by means of needle, is drawn through the fleshy part of the tail; and then there is pill vaccine, which is injected under the skin of the animal, when it is slowly absorbed.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA
An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.
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For Registered Berkshire sows, Jersey bull twenty-one months old.
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Breeder of
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HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS
GEO. E. PLATT Station B, Los Angeles

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Service bull "SARGENT FOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the Island has ever produced."

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PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
WHITING JERSEY STOCK FARM
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Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
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HIGH GRADE, STANDARD BRED JERSEYS
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Pacific Golden Lad
AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.
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Two Bull Calves
Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.
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FOR SALE
A handsome golden fawn yearling son of
SIGNORA BRUCE NO. 154547
Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address
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Jerseys with a record as milk and butter producers
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PROPERTY OF L. L. BRADBURY, ESQ.
SONS OF **Imported Golden Marquis,** FOR SALE
ALSO
MELIA ANN'S LAD and a YOUNG TORMENTOR BULL
The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
James Houston - Duarte, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, PROSPECT PARK, CAL.

A WORD IN SEASON.

I love my fowls and like to make them comfortable, and, after all, comfort is one of the three essentials to egg production. One of the greatest means of comfort to my hens has been the shade I provided for them, and incidentally, that shade, besides being a comfort to the hens, has been a source of profit to me. The first thing after laying out my pens, I chose and planted fruit trees, for I decided they would give the best results, so I fairly crowded the yards with peaches, plums of six varieties, apricots, figs, loquats, pears, walnuts, quinces, etc. In each yard there is a water hydrant, and under the fruit trees is the iron kettle which serves as drinking fountain, this is washed out three times a day, the soiled water being emptied around the trees, thus keeping the soil moist and loose, benefiting both trees and chickens, for the fowls love to wallow in the damp dust under the trees, and the soil is kept loose by a weekly spading round the trees. These trees began to bear the second year, and ever since have been loaded with the most luscious fruit I have ever seen. I picked seven hundred and seventy-seven peaches off one tree, in its third year, and I feared for the life of the tree, but the richness of the soil, from the chicken droppings and the constant cultivation, from the busy hens gardening around it, have kept it in perfect health and bearing, and it is now about eleven feet high and eleven feet across. The fig, plum, walnuts and pear trees have done equally well, so that the income from the fruit is quite an item on the ranch. The shade of trees in this climate is essential for the comfort and well being of fowls, and the fowls benefit the trees, not only by their droppings, but by destroying the insect pests which would otherwise injure both fruit and trees. No trees in this neighborhood show as marvelous growth and great productiveness as my trees, all due to the care the fowls have given them. Trees and fowls like to be petted and the more they are cared for the better the results. It is not too late yet to plant deciduous trees. Get a few of the best varieties, dig good large holes for them, mine were three feet deep and three feet across, and treat them as I treated mine and the results will be exceedingly profitable and satisfactory to both you and the hens. The more comfortable you can make the hens, the more profitable will they be to you. Little chicks, little ducklings and little turkeys in this climate all require shade, and the best shade by far for them is the shade of trees. If you have not trees, bushes or even large weeds are better than no shade. If you have no shade, open up a gunny sack, tack or nail four laths along the four sides and set it up for a small shade, or drive little posts into the ground and make a frame on which to lay palm branches or any other green branches, or even rushes or weeds; any shade is better than none, and little chicks in a brooder should have access to shade as well as sunshine in this sunny land of ours.

BROODER CHICKS.

Two letters, one from S. G., of Santa Ana, another from J. B., Covina, ask advice about raising brooder chicks; both are having the same trouble with "bowel trouble." It is the same old trouble that nearly all of us have been through at some time. It comes either from the eggs having been overheated in the incubator, or chilled in the incubator, or else from the same causes in the brooder. Chilling is the lesser of the two evils. The last day before the eggs hatch the yolk of the egg is drawn up into the chick through the navel. That yolk has to be assimilated or digested in the chick; it takes from twenty-four to seventy-two hours for this yolk to be assimilated, and if during this period the chick is overheated, it so weakens the bowels that the yolk cannot be absorbed and the yolk hardens; the same happens when chilled, but not always so badly. The yolk, when hardened, if allowed to remain in the chick, as it does, unless you cut open the chick (a very delicate surgical operation, which a surgeon, a friend of mine, successfully performed, removing the hardened, tough yolk, it putrifies, brings on bowel trouble and ends by blood poisoning. The end comes usually before the tenth day of the chick's life. I have tried to explain this so you may understand the symptoms and not feel utterly disheartened. Now, as to curing them, you will readily see that there is very small chance of any cure. I would advise your killing off the most sickly, putting the least sickly away in another brooder, or with a hen, pick off the droppings, as you say they are "stuck up behind," but don't wet them with water, as it chills them too much, and slightly grease the vent hole with carbolated vaseline. For food I much prefer dry, small grains to any other for little chicks; the chick food sold by the poultry supply houses is the best, but you might give, in addition, a hard boiled egg, shell and all, chopped fine with an onion. Onions are a wonderfully good tonic for chicks and turkeys. Add to the drinking water a little bicarbonate of soda whenever there is any bowel trouble with fowls, either young or old. I have also found that rice, boiled in milk, with powdered cinnamon, is excellent. I put a tablespoon of cinnamon in a pint of milk and sufficient rice to thicken it when boiled twenty minutes, about two-thirds of a cup of rice. This is an excellent remedy for diarrhoea in fowls and is especially good for brooder chicks that

Keep Them At It.

The hens that are properly fed and stimulated will be laying long after their poorly kept neighbors have "laid out," become broody and gone to hatching.

PRUSSIAN POULTRY FOOD

makes hens lay longer and keep in better condition. Makes eggs strong in vitality that hatch healthy chicks. Makes chicks grow faster and makes an early layer of the pullet. Keeps off all forms of cholera and other poultry diseases, being a medicated food. Price 25 and 50c. See ad elsewhere in this paper about Prussian Lice Powder and Prussian Lice Killer. Ask your dealer or write us direct.

PRUSSIAN REMEDY CO., ST. PAUL, MINN.

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SAY! Send $1.50 for 13 eggs from choice prize-winning stock of

GOLDEN BUFF LEGHORNS

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A few good cockerels and hens for sale. Winners at great San Francisco Show.

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Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

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Send for Catalogue B if interested in poul raising. Forty pages of valuable informati Address

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EGGS FOR HATCHIN

From good, strong, healthy

S. C. White and Brown Leghor

$1.00 per 15, $4.00 per 100 Satisfaction guaranteed

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JUBILEE INCUBATORS

The Jubilee illustrates the highest type in Incubator construction; hot-water pipe system; heavy copper boilers; perfect ventilation; new and positive system for control of moisture; entirely self-regulating—in all points the Jubilee leads. We have brooders to match the incubators—perfect and practical.

Send for Jubilee catalogue No. 30. It will explain all you want to know.

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Emery's Pure Meat Meal

Don't believe all we say, but ju enough to buy our Poultry Foo

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B.

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Ca

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Sho

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a po sible twenty-five, or more than all competitors combined. My winning of First, Second, Thi Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of t Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display White Wyandottes was equally significant. But over and above all, the winning of the Tim Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers a quality considered—was the most signal and the most important victory of the entire Show. T handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same groun These victories only add to an already long list. My fowls have received first premiums where exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their me They have proved their superiority both in the Show Room and as Breeders. There are no bett fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantee

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RANCH: 2½ Miles South of the University Station, on Vermont Ave. Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena All Stock is Kept at Ranch Phone: Sunset, State 82

Winning White Plymouth Rocks

Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.

Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.

SUCCESSOR TO MRS. A. BASLEY

have been chilled.

Chilling chicks at any time before the yolk is assimilated is very disastrous. I am not scientific, so cannot give the reason for the yolk hardening, but I know from sad experience and sadder post mortem examinations, what the results of either chilling or overheating in the brooder are. The brooder should be well ventilated, without a draught, oxygen is as necessary for the baby chicks as for human beings. Above all, do not put too many chicks in a brooder, they may seem to do well for a few days, but each day will find a few dwindling, growing smaller and weaker, and the loss of those few would probably be more than the cost of another brooder, besides if you have a few puny chicks they seem to infect the air and they are really a source of danger to the others. Poor little things! It is pitiful to see them, humped up, often shivering, but making a brave fight for life, till at last they succumb to the blood poisoning, for such it is, and die. I have found that, with chicks that hatch a day too late, these are always delicate and many breeders kill them off, but by putting them out with a good motherly hen, as a friend of mine did, he saved them all, and this plan might be well worth trying.

* * *

ANSWERS TO CORRESPONDENTS.

Will you please tell me through the columns of your paper where I can obtain eggs for hatching of the thoroughbred Black Spanish variety? Can you give me the name and address of any one who makes a specialty of this breed. Trusting that I may receive the desired information in the next issue of your valuable paper, Yours truly, M. Day, Anderson, Cal.

Will any of our readers who have Black Spanish fowls please answer Mr. Day? There were none exhibited at San Francisco, Los Angeles or San Diego shows, and none are advertised in our paper.

* * *

I have tried to answer our correspondents faithfully, but have been absent from home, have sold my ranch and moved to Hollywood, to Warner and Harold avenue. Some letters may have been missent or mislaid, and if so, I will ask the writers to forgive the omission and beg them to write again, addressing me simply Hollywood, California. Hollywood is a delightful suburb of Los Angeles, and my friends of the poultry yard will always be heartily welcomed at my home there.—Mrs. A. Basley.

ARTIFICIAL INCUBATION AND BROODING OF DUCKS.

Any one engaging in the duck business and proposing to make money out of it, ought to begin with an incubator. Time was when the hen was indispensable, but now old methods and appliance are being superseded. The great advance made in the poultry industry the last quarter of a century has made the incubator a necessity. Our large broiler plants and duck ranches would be an impossibility without artificial incubation.

In buying an incubator, get a twelve dozen egg size to begin with. Now level up your machine with a spirit level, so that the heat will circulate evenly. Light your incubator lamp and run it until you have it regulated so that the thermometer stands at 103 degrees. Grade your eggs (that is, have the large ones in one tray and small ones in another). By putting a ¼-inch strip of wood under tray—on tray slides—with small eggs in, you can have all eggs on a level. Put your thermometer on the eggs so that the bulb will rest between two eggs, with the other end the highest.

Start your machine cold, with eggs in cold. Some breeders have their machine heated up to 103 degrees before putting in eggs. I start my machines cold, with the best results. Now that your machine is running, don't turn the eggs until 48 hours have past. Begin now to add the moisture, put in just enough to last two days, then run one day dry.(Watching the air cell). If the air cell gets too large keep in moisture, if it does not develop enough run your machine dry, using your own judgment and knowledge. Now, don't be afraid to cool the eggs. I know that those who have the best success with artificial hatching let the eggs have plenty of time to cool each day. So many are afraid that they will not get them hot again soon enough; they commence to work the regulator as soon as the eggs are put back into the machine, while it is the fact that the regulator when once set should be let strictly alone. In cooling eggs I allow twenty-five minutes a. m. and p. m. my machines being in a cool basement, incubators can keep an even temperature with good ventilation.

Duck eggs can be hatched successfully any season of the year. Buy an incubator. I do not say that it will make you rich right away, or that it is like finding money, but I do say that you can not put any equal amount of money in any other farm implement on earth that will give you an equal return.

An incubator will set when it is set.

An incubator does not leave the nest.

An incubator does not fight and break the eggs.

An incubator does not do a lice hatching business.

WANTED—Situation on poultry ranch by an experienced man. Address California Cultivator, 203 New High, Los Angeles

EGGS FOR HATCHING
Fine S. C. Brown Leghorn and Barred Rock eggs, 50c per 13; $3.50 per hundred. Chicks hatched per order.
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BUFF ORPINGTONS
My birds won FIRST PEN at State Fair, San Francisco, and Seattle shows. You want stock of this kind. Eggs, $2.00, $3.00 and $5.00 per setting.
Walter Sullivan Agnew, Cal.

THE GOOD FOUR
I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to
EGGS, $1.50 PER SETTING
S. W. MORGAN, SUNNYSIDE, CAL

WILLIAMS BROS.'
White and Brown Leghorns
Have won more prizes at the leading Shows than all competitors combined. At the State Fair, San Francisco, and Seattle Shows, the past season, they have demonstrated their superiority by winning the Lion's Share of the First Prizes. Not only this, but at the Great Chicago Show in January we won five out of a possible six prizes, creating a sensation among Eastern breeders. For the finest stock on the Pacific Coast, write us. EGGS, either variety, $2.00 per 15; $5.00 per 45; shipped safely to go any distance. Incubator lots at reduced rates. SEND FOR CIRCULAR.
LARGE BIRDS and layers of LARGE EGGS
Williams Bros., Expert Leghorn Specialists, Box A, FRUITVALE, CAL.

THE LATEST POULTRY BOOK
A Practical Poultry Plant
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A Practical Book by a Practical Man on success in California Poultry Raising.
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Book will be issued within the next week. Order at once and get the latest on poultry raising. Cultivator readers may have the first copies issued by writing at once to this office.
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BEEF SCRAPS
Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.
Farmers and Stockmen
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Prussian Stock Food
We Carry a Full and Complete Line
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ROUP and CHOLERA
Why do so many so called poultry medicines fail? Because they are made to sell at 100 per cent and not to cure. Palmer Poultry Powder sells on its merits. Roup or cholera is no barrier to the poultry raiser now. Before this famous remedy was tested and its value proven the hatchet was used for roup. Now Palmer's Roup Remedies are used and the fowls saved.
PALMER'S POULTRY POWDERS
Trade Mark
You may think your fowls are healthy but do not lay. You buy egg producing food to force egg production. When your fowls are healthy nature fills the egg basket. Don't be deceived by cheap nostrums.
Palmer's Cholera Compound makes and keeps your hens healthy and vigorous and doubles the egg product. To try it is to buy it, to buy it is to make money.
PALMER POULTRY POWDER CO.,
302 E. Third St., Los Angeles, Cal.
50c and $1.00 Per Package

Albers' Black Minorcas
Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.
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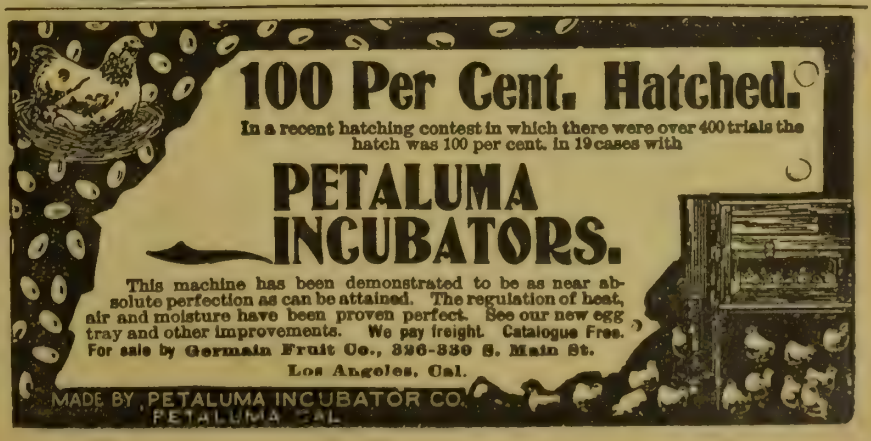
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This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
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EGGS FOR SALE

From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.

H. S. THOMPSON, 126 E. Ave. 55, Los Angeles

Cockerels Barred Rocks, Black Langshans, Light Brahmas and Partridge Cochins. Over thirty of these choice birds at $2 and $3 each. Eggs, $1.50 per 14. B. B. P. YDS., CARLSBAD, CAL.

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And SILVER GRAY DORKINGS. Won 1st prizes at all California shows. Eggs, $2.00. Males to sell. Sure Hatch Incubators kept in stock for sale. Harry McIntire, 27th & D, San Dieco

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Homestead lots and acreage land at reasonable price. Near city, some of it bounding city on the south.

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From grand laying strains Black Minorca and White Leghorn fowls. Pens headed by prize winners, $1 and $2 for setting of 15. One Plymouth Rock pen headed by bird bred at eastern experiment station from 250-egg strain, $2 per 13 eggs Stock for sale.

J. P. McDonough Geyserville, Cal.

INDIAN RUNNER DUCKS
AND
WHITE PLYMOUTH ROCKS

Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.

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FROM
PURE BRED WHITE LEGHORNS
$1 00 per 13—$4.00 per 100
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19 Ribbons at San Francisco and Los Angeles Shows. Entries 26.

EL ORO POULTRY FARM
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Booking orders for eggs from yards of White and Brown Leghorns, White Buff and Barred Rocks, Blue Andalusians, Light Brahmas, Silver Spangled Hamburgs, Buff Cochin Bantams, Black Minorcas, Pekin Ducks and Bronze Turkeys. Prices, $1.00 to $3.00

MATURED
Standard Bred
Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
S. C. W. Leghorns (Emery Strain)
Only Birds that have
MOULTED
are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

Knapp Strain
S. C. WHITE LEGHORNS

BEST egg variety known. Awarded HIGHEST HONORS at hundreds of America's leading shows. First and second PRIZES awarded to COCKS of this strain at the GREAT PAN-AMERICAN EXPOSITION. Bred for HEAVY PRODUCTION of LARGE WHITE EGGS. Some very choice pens for sale. Write for prices.

Eggs for settings, $2 per 15.
Incubator lots, $5 to $8 per 100.

Mountain View Poultry Yards
H. C. Chamberlain, Proprietor, Cotati, Cal.

WinnerBuffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever heldwest of the Missouri.

WHITE LEGHORNS

Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."

Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from famous egg producing strains of large eggs.

Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect. None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.

To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders, Selected not only for their Show qualities, but more essentially for their laying qualities of large eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize pullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and first prize hen, Snow Queen, at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be fonnd.

"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger eggs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Such strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.

W. W. HOWARD 3024 E. Main St. Los Angeles, Cal.

Brooding Ducks.—A duck should have every opportunity for growth from the moment it leaves the shell until it reaches a suitable size for the market, or arrives at maturity. Success lies in the rule—keep your ducklings growing. Every time a duck is chilled or exhausted its growth is retarded. As a profitable method of raising ducks, either for the market or fancy, the brooder has come to stay. Now that your ducks are hatching see that your brooder is nice and warm to receive them. If your brooder is too warm the ducklings will crowd away from center of heat; if too cold they will huddle close to heat; so by studying their habits you can tell if they are comfortable. Wean them from the heat in twelve days. At night put them in boxes covered with burlap. See that your brooders and boxes are kept clean and success is yours. Yours for ducks and better ducks, James Hague, Oakland, California.

[Any information on water fowl can be secured by writing Mr. Hague, who will answer through the Cultivator.]

James Hague, proprietor of Fair Oaks Duck Farm, of Oakland, announces that he will not exhibit any water fowl for competition for premiums at any poultry show held in this State this year. Mr. Hague says that he proposes to encourage others whom he knows have prize winners to come out and exhibit.

MAINTAINING POULTRY.

While the life of a chick is a mystery yet unsatisfactorily defined it is evident that from its inception until its termination there is no standing still of the animal structure. During the existence of life, the materials necessary for the maintainance and growth of the animal organism are carried on through the circulation of the blood. Also the wasted tissues are being constantly removed through the same agent. The blood being replenished by means of nutriments furnished in the food and, as the blood contains all the elements of the fowl, it is essential that the food contain these elements in forms that are digestible so that they can be used to renew the blood which is the life of the fowl.

It is very necessary to have some knowledge of the internal arrangements of the fowl's digestive canal with its several modifications. However necessary this knowledge may seem when viewed from a scientific standpoint, we regard it secondary in importance to an understanding of the nutritive ratio and value of food products. Foods rich in protein are necessary for the formation of muscles and flesh. Protein nutrients are abundant in beef scraps or lean beef, whole wheat, wheat middlings and oat meal. Whole or cracked corn contains more carbonaceous or fat forming elements but fed in connection with other grains forms an excellent ration. Wheat seems to be better adapted than any other food for an exclusive diet, but when fed alone to fowls that are confined in barren runs, it is too concentrated. The high price often prevents the poultryman from feeding wheat exclusively at times when conditions are otherwise favorable for the use of it more extensively. Green foods are evry essential in forming the ration of a flock of fowls at any season of the year and when used in connection with nitrogenous and carbonaceous grains properly proportioned the mash can be practically eliminated from the use of a part of the diet. We do not wish to be understood, however, as looking upon a properly constructed mash as not being beneficial, it is of value from a finaancial standpoint as well as a valuable acquisition as a health factor. The mash is misused perhaps, more than any other ration and unless compounded and used regularly with some degree of intelligence and with a certain object in view we should not advise the use of it at all. The average farmer we find contends that his hens lay just as many eggs and the chicks develop just as rapidly as the standard bred fowl of the fancier that is fed a variety of grains, mashes, beef scraps, cut bone, oyster shells, vegetables and cut clover. It would be a very strange state of affairs if the hens found upon the farms of today, descendants of some fanciers yards, receiving top crosses each year from the best egg producing and flesh developing males in the land with access to grain, hay, clover and other flesh forming and egg producing foods to be had in any market, did not yield a bountiful supply of both meat and eggs. It is a long step in proof of the fact that the pure bred cockerels found running upon their farms are the direct source of these far greater returns from the money expended in procuring them than is derived from any other investment upon the farm.—M. E. Wilcox, in Farmer's Tribune.

Factory of the Petaluma Incubator Company, Petaluma, Cal.

ECONOMY IN FEEDING.

Keep down expenses in every possible way. Study how to feed in the most economical manner. This does not mean that the fowls should be stinted in anything necessary to their health and thrift. That is not economical feeding. On the contrary, it is very expensive feeding—the most expensive that could be adapted. But utilize all waste products which can be made to serve as wholesome food for fowls. Cut down the grain bill. Taking the country over, the hens are fed at least double the quantity of grain that they ought to have. They would be far more profitable if fed less grain and more bulky vegetable material.

It takes thought, and careful planning, and work to keep down expenses in the poultry yard. Many people who rear poultry successfully allow their expenses to eat up their profits. If one makes use of every available means to reduce expenses he will be surprised at the little cost required to carry a flock through the year, and yet keep them in the very best plight. We should guess that fully nine-tenths of those who keep fowls attend to them in person. They do not employ any outside labor, and keep their flocks within limits which will make this unnecessary. With these people the principal saving in the way of expense must be in the feed. It is money in their pockets to think very hard over this problem.

MAKING POULTRY PAY.

The only way to make money out of Standard poultry is to do business with those who want that sort of poultry.

The only way to do business of this kind to a paying extent is to advertise.

If advertising always paid it would not be necessary to say anything further on this subject. It might clinch the truthfulness of the above propositions if I were to say that no breeder of Standard poultry has ever built up a big business without advertising, and that several have made very comfortable competences by advertising.

If I had all the money the poultry breeders of this country throw away by mistaken advertising every year I would not be writing these words today. I would be in some fair southern clime enjoying the balmy air in my new automobile.

Not very encouraging for a beginner, is it? Yet, in the face of this undisputed fact, I say in all sincerity that without advertiing it is impossible to build up a big business in Standard poultry.

The beginner in poultry advertising is very likely to begin by experimenting in mediums of low cost. Very often these bring results so small that further advertising seems to the novice like a waste of money.

Sometimes the beginner expects too much from advertising. He expects to take one inch one year in some paper where the cost will be, say $10, and get orders for all the stock he has for sale. This would be on the "something-for-nothing" order, and such leals rarely "pan out" in real life.

The question to be considered is what should a poultry breeder invest in advertising for every dollar's worth of stock or eggs he has to sell?

During the last year I have put this question to a large number of breeders who advertise continuously and have a large business. These men have made money breeding Standard poultry and have learned that advertising pays, if the proper mediums are used. They practically agree on what advertising should cost per dollar of sales. One well-known breeder told me he spent $1300 in advertising and sold something over $15,000 worth of poultry and eggs. Another spent a little more than $2000 to do a business that amounted to $22,000, and another said his advertising cost him 25 per cent of his sales.

At the regular market price the best bird that ever grew in the United States would be worth not to exceed $3. The highest price ever paid for a single bird in this country was something like $300. The bird that sold for this price was sold at a profit of at least $297, and the owner could well have afforded to spend $100 in advertising him.

Not so very long ago I stood in a meadow in Massachusetts looking at a flock of White Wyandottes. The owner pointed out two in the flock that were sold for $100 each, and said he expected to sell four or five more for a similar price.

Eggs are worth in spring, say 15 cents a dozen in market. If they are the product of hens that will score high in the hands of an expert judge, those eggs will sell for from $2 to $5 for thirteen. Whether they sell for $2 or $5 per thirteen will depend altogether on who owns the hens, and the difference will be entirely due to advertising. The man who has advertised the most and the longest will be able to get the highest price.

One eastern breeder sells eggs regularly for $5 per thirteen and has orders for all the eggs he can get at that price every year. That same breeder has been advertising regularly for more than twenty years, and he uses ten inches of space the year around in nine-tenths of the papers he uses. The same breeder sells more than half his male birds at $10 or more each—because he advertises.

Suppose I should buy of that breeder a pen of birds, paying $100 for the cock and $50 each for the females. They would be of the very best that that breeder can produce after all his years of experience in mating. Does any one think I could get $5 per thirteen eggs from those hens even if I were to advertise that I bought the best stock of the breeder? If any one thinks so he is very badly mistaken. The buyer would prefer to go to the original breeder for eggs, because he has seen his name in so many papers for so long a time that he has been educated to have confidence in him.

The beginner will not get as good returns the first year as he will the next, and the third year will be better than the second, and, other things being equal, each succeeding year will be better than the one just preceding it, because continuous advertising is cumulative in its effects.

A painter can go out and paint a day or two without evil effects, but all the same a little of the lead in the paint has been absorbed by his body. If he keeps on painting he will continue to absorb lead poison, and, after a while, he will reach his limit and painter's colic will have him in its painful grip.

It is the same with advertising. Every time a reader sees an ad. it gets a little better hold on him, and if ever the time comes that he wants to buy he is going to buy of the old advertiser from preference.

The poultry breeder who expects to have $100 worth of eggs to sell can well afford to spend $25 in advertising. He will have $75 for about fifty dozen eggs that would have sold in the market for $10, at the outside, a clean profit of $65 on an investment of $25.

There are several mediums that I would use if I wanted to sell $100 worth of eggs for hatching, and I would be just as confident of the desider results as I would that I could buy 25 cents' worth of sugar for a quarter of a dollar.

* * *

To sum up the whole matter: The poultry breeder must advertise to build up a big business; he must not expect too much in the way of results at first; he must keep on year after year; he must advertise judiciously.

* * *

Start right and keep on right, and success is certain, for there is as good and as constant a market for Standard poultry as for market poultry. There is money in either kind, but there is the most money in well advertised Standard poultry.—Agricultural Advertiser.

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
LOUIS S. FLETCHER, ANAHEIM. CAL.

S. C. W. LEGHORNS

Strong constitutional birds. Small pens. Fertile eggs guaranteed. Reasonable prices for commercial hatching. Pains taken in packing.
E. A. BOST, 514 W. Crow Ave., Pomona, Cal

THE NATURAL HEN INCUBATORS AND BROODERS

Points of Merit That Are Causing Such Large Sales of These Machines All Over the U. S.:

A continual circulation of pure, fresh, warmed, moist air in every part. Chicks can regulate their own wants as to heat and air by having a range of from 60 to 100 degrees to go into. Chicks will not crowd, as they have warm material to place their backs against similar to the old mother hen. No chilling or overheating. Lamp fumes or gasses entirely separated from chicks and fresh air. Brooder can be heated up in fifteen minutes in any season. The most economical on oil of anything in the shape of a brooder. One filling of lamp—3 quarts of oil—will last from five to seven days in mild weather. The incubator is guaranteed to hatch chicks as strong as the hen can. The only brooder that has and is capable of raising 100 per cent, not only once, but time after time. Our catalogue and book combined will explain more of the merits that have made these machines famous. Send for it. Mailed on receipt of 10 cents in stamps. It has helped thousands to success that have previously failed with other makes.

F. S. LOW & CO.
PETALUMA CALIFORNIA

Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
F. E. Seaman, Upland, Cal

Lake Avenue Poultry Yards

Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $4.00 per 100. Strong, healthy stock, prize winning strains. Visitors welcome.
757 N. LAKE AVE., PASADENA, CAL.

Poultry Ranch FOR SALE

With 400 head of poultry, 5 kinds of Wyandottes, house, barn, well, 30 acres of land, seven in flat, balance hill land. Easy terms, $1,000.
A. B. Bland Fernando, Cal.

SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904
There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
C. C. SHOEMAKER, Box 718, • Freeport, Ill.

Barred Plymouth Rock Eggs for Hatching

1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15
MRS. Z. A. WOLLAM,
W. CENTRAL AVE. RIVERSIDE, CAL.

BARRED PLYMOUTH ROCKS
THOMPSON'S RINGLET STRAIN
Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.
A. A. Clapp • Alhambra, Cal.

Largest Poultry Supply House in the United States

YOU DON'T NEED TO
Stay Up at Night
In order to have successful hatches when using the
IMPROVED
LOS ANGELES
INCUBATORS

Self Regulating Non Moisture
Self Ventilating Most Economical
FREE—1904 Catalogue—Free

Darling's Genuine Beef Scraps

HENRY ALBERS • 315 South Main Street Los Angeles, Cal.

CHAMBERLAIN'S PERFECT CHICK FEED.

World's Chick Feed of To-day. The only original **dry Chick Feed**—all others are worthless imitations. **Chamberlain's Perfect Mash Egg Feed** supplies your hens in winter with grass and meat, and is the greatest egg food known. Feed your hens **Chamberlain's Perfect Hen Feed** night and morning, **Perfect Mash Feed** at noon and you will have eggs winter and summer. Chick Feed for sale at $3.25 per 100 lbs.; Hen Feed $2.75 per 100 lbs.; Mash Egg Feed $2.20 per 2-bushel sack; Evergreen Shredded Clover (green as grass) $3.25 per 100 lbs.

GERMAIN SEED CO.,
PACIFIC COAST AGENTS. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, GLENDALE, CAL.

ROSES.

J. L., Sierra Madre.—Your Maréchal Neil, if good size, should not be harmed by an asparagus, but a foot away, unless the latter has grown to be a large vine; if such is the case, would move the asparagus. For yellow rose for cut flowers, Marie Van Houtte is a good one; if not yellow enough, try Perle des Jardins. In the bud Safrano is beautiful, though an apricot or fawn, rather than yellow. In reds, Papa Gontier gives a fine bud, but with short stems. In your section Meteor should give free buds—in lower altitudes it blasts very badly. It is a grand rose when perfect. Jubilee is another good red, while for a good old standby—good in all climes—Agrippina has few, if any, equals.

* * *

Desert Planting.—A bulletin on "Shade Trees and Other Ornamentals," by Fabian Garcia, of the New Mexico Experiment Station, may prove of value and interest to many in the colder parts of the desert—too cold for the pepper tree to grow successfully. Mr. Garcia recommends, for trees: The "Tree of Heaven" (Ailanthus glandulosa), Ash (several species), Box Elder (Acer Negundo), China Berry Tree (Melia Azedarach) and its variety, the Texas Umbrella Tree, and several cottonwoods; these latter, where the water supply is good. It is stated that in starting the cottonwood they take good sized limbs, soak them for a while, and plant them out. The American Elm (Ulmus Americana), Kentucky Coffee Tree (Gymnocladus Canadensis), Black Locust (Robinia psendacacia), Honey Locust (Gleditschia triacanthos), and the Russian Mulberry (Morus alba Tartarica), are all extensively used. Others equally as good are: Osage Orange (Foxylon pomiferum), a native pear (Pyrus communis), the Lombardy and Carolina poplars, Purple Leaf Plum (Prunus Pissardi), Soft Maple (Acer saccharinum), Sycamore (Platanus occidentalis), Walnuts (several species), and the wild olive or Russian Oleaster Eleagnus augustifolia.

In evergreens the best are: Arborvitae (Thuja ocidentalis), Spindle Tree (Euronymus Japonicus), Indian Cedar (Cedrus deodora), Japanese Cypress (Retinospora plumosa), Privets (several species of Ligustrum), Red Cedar (Juniperus Virginiana), and numerous shrubs are added to the list.

* * *

FLOWERS FOR PERFUMERY.

A note on flower culture for distilling in Southern France, contained in a recent consular report, states that the following flowers are most largely grown for the distilling of perfumes: Violet, acacia, jonquil, mignonette, rose, orange flowers, jasmine, tuberose, and carnation.

Fifty breeding ducks should keep three 200-egg incubators going, and turn out between two and three thousand ducks in a season, giving one man all the employment he would want.

Thousands of men and women in California are today breeding pure-bred poultry at a good margin of profit as a reward for their labor, while at the same time much enjoyment is gained from the occupation.

IRRIGATION NOTES.

Modesto is planning for a great irrigation jubilee, to be held in that city April 22 and 23. The people are planning for excursions from various parts of the State. Then observation cars will be run through the famous Turlock and Modesto districts. There are certainly many magnificent canals and lateral ditches which one may see in passing through that section. The gospel of irrigation is spreading and as Scipio Craig says, rain is each year more fully proved a poor substitute for irrigation. Success be with the Modesto and Turlock people.

* * *

The Chino Land and Water Co. will commence in a few days the drilling of at least three 14-inch water wells in the lower part of the valley.

* * *

Copeland Bros. are boring another well on their large ranch near San Jacinto. This will make the twelfth well put down by these ranchers. It is their intention to soon bore a six hundred-foot well.

* * *

The office of the experiment stations of the Department of Agriculture has just issued a bulletin on "Acquirement of Water Rights in the Arkansas Valley in Colorado," by Hon. J. S. Greene, of Pueblo, formerly State Engineer of Colorado, prepared under the direction of Elwood Mead, chief of irrigation investigations. The bulletin is written specially for those who are contemplating settling in the Arkansas Valley.

* * *

There was never a season when pumping plants were in such demand as this year. While it may be that as a rule pumping is more expensive than gravity flow, yet it is reasonably sure and in time of scarcity, invaluable. Many a ranch now has its own pumping plant, which is used in emergency only, but often proves the salvation of valuable property.

* * *

The Del Monte Irrigation Company's big pumping plant at Pomona started last week.

HOME BUILDING.

The tendency now is toward fewer and larger rooms; to have at least one large living room in the house; in the smaller house to make the hall a reception hall, doing away with the reception room or parlor. The kitchen is being more carefully planned as people realize the importance in the daily comfort and economy of the convenient and well-planned kitchen. There was a time when the superficial features were given undue consideration, and when a house was planned with reference to rare occasions of party and reception. Today a wiser idea prevails and the daily life of the household becomes the controlling influence. Sliding doors are less in evidence; the desire to throw the house open to accommodate one or two days in the year and to be inconvenienced the remaining three hundred and sixty odd days has gone by. The fireplace is built to use rather than to help furnish. Room closets, linen shelves and many other conveniences are thought of and planned for rather than cozy corners and comfortable window seats.—Farm Home.

Few people except trained nurses know that a restless patient is made much more comfortable if the corners of the under sheet are carefully pinned to the under side of the mattress with safety pins. Draw the sheet tight and pin it securely. It will be a relief to you and the suffering patient.

Turkey raising has become almost a distinct branch of poultry industry and requires a location very different from that needed for chickens, geese or ducks. Turkeys, while thoroughly domesticated, still retain that natural disposition to roam, and for this reason it is impossible to succeed with them in small lots. They must have range, even when being prepared for market, and when this is given them they are but little more troublesome than other kinds of poultry.—American Truck Farmer.

Saving deposits for children is one of the best plans ever devised for encouraging economy and frugality in children, as money deposited for them gives children valuable business experience, and the first lessons of economy are more easily learned if the savings are for some fixed or definite purpose. Open an account for your children.

You need not hesitate to bring small amounts to the bank; any amount of one dollar or more is acceptable at any time when convenient.

A MOLAR PLEXUS.

Farmer—"How much d'ye charge fer pullin' teeth?"

Dentist—"Fifty cents an acher."

Salt does not kill poultry, says a poultry exchange, though such has been the claim. If the fowls are allowed to have access to the broken rock salt, or brine from pork or fish barrel, they may eat too much and be injured, but a proper proportion of salt in the food is as necessary for fowls as for animals. Many diseases are due to a failure to supply salt, and this accounts for the cures effected by it in some cases, the fowls when sick being benefitted by salt because it supplies a long-felt want.

Salzer's
National Oats
Greatest oat of the century. Yielded in 1903 in Ohio 187, in Mich. 231, in Mo. 255, and in N. Dakota 310 bus. per acre. You can beat that record in 1904!
For 10c and this notice
we mail you free lots of farm seed samples and our big catalog, telling all about this oat wonder and thousands of other seeds.
JOHN A. SALZER SEED CO.
La Crosse,
Wis.

DO YOU LIKE Roses?

As the season is drawing to a close, early planting is strongly urged. We are exclusive growers of roses, and handle only such varieties as prosper best in this climate, GUARANTEEING OUR STOCK TO COME TRUE TO NAME. For March we offer large, field-grown dormant plants at the following

SPECIAL PRICES

24 inches high, 35c each, $3.00 per dozen
30 inches high, 50c each, $4.00 per dozen
Free Delivery—Send us your order

HOLLYWOOD ROSE CO.
Prospect Park P. O., Los Angeles

LIVE OAKS

STERCULIAS ACACIAS

and other Shade and Ornamental Trees.

Ferns, Palms and Decorative Plants.

Choice Flower, Garden and Tree Seeds.

Theodore Payne
SUCCESSOR TO HUGH EVANS
NURSERYMAN AND SEEDSMAN
440 South Broadway Los Angeles, Cal.

California Nursery Co.
NILES, CAL.

We have all you want for your Orchard, Vineyard, Street, Roadside and Garden. March is the month to plant

SEMI-TROPICAL FRUITS

Oranges, Lemons, Figs and Olives

CONIFEROUS and BROAD-LEAVED EVERGREENS

18 varieties Acacia, 23 Eucalyptus. A large assortment to select from.

Catalogue Mailed Free

ORANGE PLANTS

Seed Bed Stock, clean, thrifty and well rooted

J. M. CARSE

Wilson Ave. - Alhambra, Cal.

JURUPA NURSERY CO.

Growers of Deciduous, Citrus and Ornamental Trees and Vines

THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.

SEND FOR PRICE LIST AND CATALOGUE

Jurupa Nursery Co. Riverside, Cal.

Our Sales in 1903 Over 3,000,000

Try Them—We Guarantee Satisfaction

Price Standard Size, $17.50 per M.

A cheap, effectual and permanent method of propping trees

Cheaper than driving staples in the limb, and no possible damage to tree.
Cheaper than boiling rope, because permanent.

Samples Free to Orchardists

Hoyt Tree Support Co.
WATSONVILLE, CAL,

Or R. M. Teague, San Dimas, Cal.
Distributor for Southern California

Established 1865. The Oldest in the State.

PAJARO VALLEY NURSERY

Located in the Fertile Pajaro Valley. Large stock of Apple, Pear, Apricot, Peach, Plum, Prune, Cherry and Nectarine Trees. Apple Trees on resistant roots.
Nut Trees, Shade Trees, Palms, Small Fruits, Roses, etc. Introducer of the Loganberry and Mammoth Blackberry. Originator and introducer of the Linda Strawberry.
If you want unirrigated California grown trees—best for our dry climate—we have them.

Send for Catalogue and Price List

JAMES WATERS, Prop. Watsonville, Cal.

JUST BE GLAD.

Oh, heart of mine, we shouldn't
Worry so!
What we've missed of calm we couldn't
Have, you know.
What we've met of stormy pain
We can better meet again
If it blow.

For we know not every morrow
Can be sad:
So, forgetting all the sorrow
We have had,
Let us fold away our fears,
And put by our foolish tears,
And through all the coming years
Just be glad.

—James Whitcomb Riley.

THE PHYSICIAN'S MIDNIGHT VISIT.

It was getting late. Somewhere a clock struck midnight, and all Elmchester seemed to be in bed. The lights had disappeared from the sedate houses round about, and only Dr. Clement's lamp burned brightly, thowing a streak of red across the wet, empty and wind swept street.

It was an ugly night, and Dr. Clement put down his paper to listen. A fierce sleet beat and hissed against the window pane, and the wind drove blusteringly round the house.

It was an ugly night, and it was going to be worse, and Dr. Clement hoped that no one would call him out again. He had had a hard day, and his room was cosey and he was warm.

He picked up his paper again. It was full of stories of an absconding solicitor and of rumors of his whereabouts. He had disappeared and ruined hundreds of his clients. One of them was in Elmchester, and Dr. Clement frowned as he thought of him, worried and broken and ill.

"They ought to shoot him when they catch him," he muttered. " He is worse than a murderer."

Tonight the papers stated confidently that he was in Spain and that the police were following hard on his track. Yesterday he had been in Manchester, the day before in New York. Tomorrow he would be in a new neighborhood altogether no doubt and meanwhile he was probably somewhere close at hand —perhaps even in Elmchester itself.

Dr. Clement threw aside his paper and rose to his feet. After all, very likely the police would never find him, and even if they did it would not do much toward healing the hearts and lives that he had broken and ruined. Nothing would do that; and the old man in Elmchester who had believed he had sufficient money to last him and his wife the rest of their lives would be penniless all the same.

Dr. Clement crossed the room with a sigh and then stood still. A faint tinkle had sounded in the hall outside, a tinkle like the bell of his front door. He listened. The sleet whipped the window panes and the wind blustered on. There was no other sound, and for a moment he hesitated before he passed out to open the door.

Who could be calling him out on a night like that? He had no one so seriously ill as to need him in such haste, and if it were Lady Lynwood again he decided that he would refuse to go. Her "nerves" were too irritating for anything.

He flung open the door impatiently, convinced that he should see her tall footman on the step and hear the well known formula, "Lady Lynwood's compliments, but she is very much worse."

But when he looked only the darkness of the night lay before him. Only his own wet steps and the muddy road.

He stared and then retreated backward hurriedly as the cold wind tore past, but as he did some one started from out of the shadow—some wan thing and white, with the face of a ghost and wide, girlish blue eyes.

He stared down at her. She seemed breathless, and as the light fell full on her he saw that her lips were quivering.

"Come in," he said quickly, "and tell me what I can do for you."

She stepped, shivering, cold and wet, into the hall and looked into his face. He closed the door, and for a moment she stood before him in silence looking eagerly into his handsome, clear-cut face, as if she had a special interest in watching him closely. "You are Dr. Clement?" she asked at last slowly; and as he bowed she added, "I—I thought you were an old man, not a young man, and I—"

She stopped, and Dick Clement moved so that he could see her face more clearly.

"Well, did you want an old man?" he asked. "But tell me what I can do for you."

She hesitated agin, her eyes looking almost wildly across the hall with its pictures and statuary and heavy curtains.

"Oh," she cried at last suddenly, "I want you to come at once to my father. He is ill. He"—She looked quickly into his face, and somehow, strangely enough, a thrill ran through Dr. Clement as he met her eyes. He looked quickly at her shabby coat and hat, and as quickly thought that she would be a beautiful woman if she was properly dressed and taken care of.

"Yes," he said. "Tell me what is the matter with him."

The girl stepped back deliberately into the shadow.

"I don't know," she said, "but he has had a lot of worry lately, and—and—whoever comes to him must ask him no questions--must be secret and quick. Do you understand? He is—queer." Her voice choked a little, and once more there came to Dr. Clement an odd feeling that he wanted to help her—protect her—in spite of the odd air of mystery that seemed to be springing up about her.

"Yes," he said. "I understand. But if it is an urgent case oughtn't we to go at once?"

"Wait." She put her hand on his arm. "I want some one I can trust. I want some one who, whatever comes, can keep a secret."

She stopped, and afterward Dr. Clement wondered what madness it was that at that moment prompted him to cast caution to the winds and promise her all she wished. Perhaps it was her thin, girlish face, the anxious look in her eyes, the pitiful droop of her mouth, but at any rate he put his hand on hers and looked into her eyes.

"I'll do everything I can," he said. You can trust me."

"Then come," she cried. "My name is Waterer, and it is my father who has taken the Red house."

Dr. Clement looked at her with some curiosity. He pulled on his mackintosh and opened the door again with a quick glance at her dripping coat. She looked ill herself—ill and worried and wet through ,and the strange longing to help her, to be of use to her, came back with sudden swiftness as they stepped out into the dark and muddy road.

He held out his arm to her.

"Let me help you," he said, "it is so dark."

But to his surprise she shrank away from him.

"No, no," she said with white lips, "I am best by myself."

They hurried on, and at last Dr. Clement found himself bending to open the rusty gate of the Red House. It was a small gate in a high wall, and the house lay well hidden.

"Promise," she said quickly and breathlessly, "that you ask him no questions. I only want you to prescribe. We—we—have been abroad—on the continent for the—for the last six months and—and—he is ill—and worried and—oh! for God's sake don't question him. You promise?"

Her hand held his arm, and Dr. Clement, looking down into her strange, beautiful face, felt himself curiously powerless. He thought of all the rumors that were abroad concerning the Red House—the curious whispers about the tenant who had taken and furnished it and not inhabited it, and everything vanished before a girl's blue eyes.

"I'll ask nothing," he said. "I'll do all I can."

She looked at him steadily, and then turned and walked quickly up the gravel path to the house. As they went Dr. Clement fancied he heard footsteps behind him—pattering footsteps like a dog—but he was not sure, and when he stopped to listen they ceased.

The girl went on and reaching the door knocked on it sharply with her knuckles. It was opened instantly by an old woman who peered out at them.

"Have you got him, Miss Ida?" she asked. "Is it all right?"

Ida went forward, and Dr. Clement followed her into a lighted room, and there she faced him suddenly.

"Doctor, do your best—oh! for heaven's sake do your best for my father, and—and—believe in me—believe in us both."

She broke off, and a strange quiver passed over her face.

Dr. Clement held out his hand against all caution, and in spite of the feeling of mystery which had sprung up in his heart.

"I'll do what I can," he said slowly. "Let me go to him,"

She looked into his face and drew a deep breath and then walked slowly

(Continued from page 287)

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The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART III.

A Story of an 800-Acre Dariy and Poultry Farm.

This is the third part of the story describing a week's drive through the country that contains the world's largest poultry farms.

Remember we told you in the first beginning that we would show you how large sheep and cattle ranges have been transformed into poultry farms. All these poultry farms that we describe have been large dairy farms and during the last few years have been combined with poultry.

In the first part we told you about

John McDonald.

C. H. Purvine's place. Mr. Purvine is raising 10,000 chicks on Coulson's Chick Food and last week we described Mr. Bassett's place, who is raising 6000 chicks on Coulson's Chick Food and feeding 3000 laying hens on Coulson's Egg Food and gets over 1200 to 1500 eggs a day.

On the third morning we left Tomales and drove out toward the Coast.

Just out and looking for Coulson's Chick Food. This shows the interior of one of the brooder houses on McDonald's place. The chicks were hatched out the day before and they are now being fed their first meal on Coulson's Chick Food. The Chick Food is fed dry for the first 4 days; being scattered about in the chaff on the brooder house floor.

We took the road through the canyon and there we had some of the most beautiful scenery, high mountains on both sides and a fine stream of water all along the road. Soon we came to Ocean Roar, a summer resort about one-half mile from the Pacific Ocean and a little further along was Tomales Bay, a body of water about two miles wide and ten miles long. The road was on the side of the high cliffs and as we were driving along we could look straight down into the water, 100 feet below. There were chicken ranches scattered all along through this country. One man by the name of Johnson has 1000 chickens on an island and takes the feed over to them in a boat. About 8:30 we arrived at John McDonald's place and we drove up a lane with beautiful shade trees on both sides to Mr. McDonald's residence. Now we were on a dairy and poultry farm of 800 acres (see illustration), and we arrived just in time to see how Mr. McDonald fed his poultry. He had a large feed trough about 8 feet long and 3 feet wide fastened on a truck wagon and first they went to a large granary where the feed is stored and there we saw SEVERAL HUNDRED SACKS OF COULSON'S POULTRY FOODS for Mr. McDonald buys Coulson's Food in CAR-LOAD LOTS and had just got in a full carload only a few days before. (Mr. McDonald uses so much feed on this place that the railroad has built a side track to run off at McDonald's place and it is called McDonald's side track.) They took 2 sacks Coulson's Egg Food (a balanced ration for laying hens) and then drove up to the creamery and mixed the 2 sacks of Egg Food in the feed box with 10 gallons of hot milk from the separator. (See illustration.)

The creamery on this place is one of the best in that section of the country. It is equipped with modern, up-to-date machinery, engines, boilers, separator, churning machine, etc. They milk 140 cows and make a little over 100 pounds of butter daily, furnishing the fancy trade in San Francisco. There is also a mill connected with the building for grinding feed and grains and the miller was that day grinding several tons of horse beans. Five men are employed on this ranch.

We asked Mr. McDonald what he thought of Coulson's Egg Food for the laying hens. He said he thought it was first-class and much better than ordinary feed and that the hens liked it and did very well on it. Although he had his own mill for grinding feeds, etc., yet it was CHEAPER TO USE COULSON'S BALANCED RATIONS because when he fed Coulson's food he did not have to feed any meat, as Coulson's Egg Food is about 1-5 animal foods, ground bone meal, heart and liver meat meal, Armour's dried blood meal, animal charcoal, etc., which made the food more valuable as an egg producer and kept the hens in stronger and healthier condition.

While the attendant was off feeding the hens on Coulson's Egg Food Mr. McDonald went to the feed house and got a sack of Coulson's Little Chick Feed and then we went around and saw how the little chicks liked Coulson's Chick Food. Altogether he had about 6000 little chicks at different ages from just hatched and some 10 weeks old, all being raised on Coulson's Chick Food, and they were certainly a prize lot of chicks.

In one brooder house there was about 500 chicks just taken out of the incubator the day before, and he then gave them their first meal on Coulson's Chick Food. (See illustration.)

Also the 2000 hens on the place were given their start in life last year on Coulson's Chick Food, and this year he will probably raise 4000 or 5000 hens.

The way Mr. McDonald feeds Coulson's Chick Food is as follows: The first 4 days the chick food is fed dry, scattered around in the chaff on the brooder house floor and fed about 6 times a day. After the chicks get 4 days old the Chick Food is moistened with milk into a crumbly state and fed 4 times a day. After the chicks get to be 2 months old they are fed Coulson's Egg Food the same as the hens and fed 3 times a day.

Mr. McDonald has been in the dairy business on this place for the last 18 years and it is only the last couple of years that he combined poultry with dairy business, but from now on he is going into it heavy, for hens that are fed on Coulson's Egg Food pay good profit.

Then we were taken to the incubator house and we saw 6 large incubators all filled with eggs that would hatch out in a couple of weeks; several thousand more chicks to be raised on Coulson's Chick Food.

Then we were invited in to dinner and went into a large dining room, and we had a chance to test some of Mr. McDonald's good creamery butter, and also some of the genuine Coulson's Egg Food, for we had fresh laid eggs from hens that were fed on Coulson's Egg Food, and there was no horse meat about those eggs.

Hens that are fed on Coulson's Egg Food lay good eggs! they have a bet-

One lot of chickens about 10 days old. Mr. McDonald letting the chicks out for their breakfast on Coulson's Chick Food.

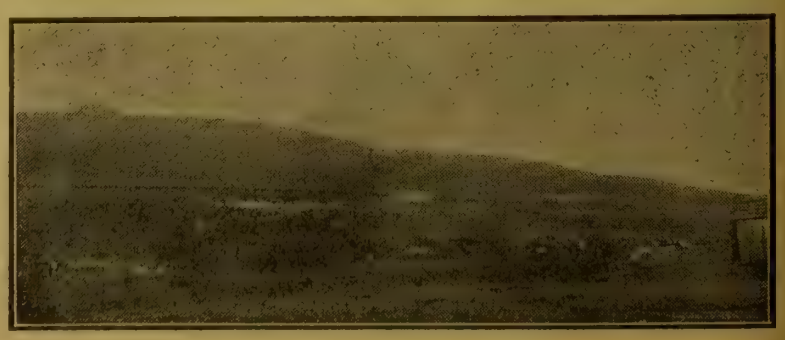
Coulson's Chick Food contains everything needed to fully nourish the chicks and by feeding Coulson's Chick Food you will be able to sell off the broilers from 2 to 3 weeks earlier than you would if you feed them on common food.

On John McDonald's place. Pullets 10 weeks old raised on Coulson's Chick Food. Mr. McDonald has many more like these. All the chicks are fed on Coulson's Chick Food exclusivey until they are about 2 months old, then they are given Coulson's Balanced Ration the same as the hens.

If Mr. McDonald can raise chicks like these by feeding them Coulson's Chick Food, why not you?

Suppose you give Coulson's Chick Food a trial. It will not cost you but a trifle more than other feed and the way it makes chicks grow is marvelous.

After feeding the young chicks just out we went around to 12 or 15 other brooder houses all containing chicks



Feeding the laying hens Coulson's Balanced Ration Egg Food; about 3 gallons is fed to each colony of 200 hens.

Interior View of McDonald's Creamery.

ter flavor and are good eating.

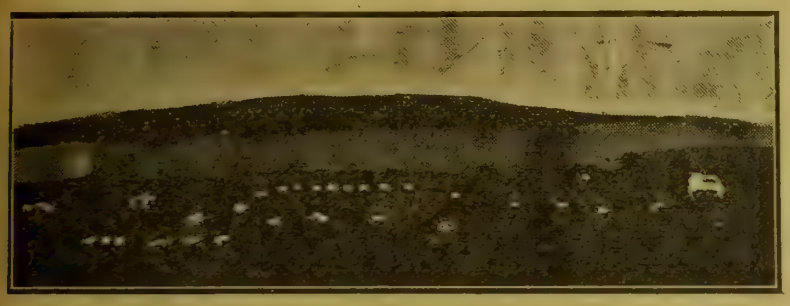
If you want to get some good tasting eggs you get them from some person feeding their hens on Coulson's Egg Food. We had many good things set before us that day and we did eat, drink and were merry, and then after lunch we got in our carriage and drove to another place which we will describe in the next issue.

We have told you about a few chickens that are being fed on Coulson's Food, but nothing to what is coming. If you have any poultry you want to go to your feed store and get some of Coulson's Food.

Remember Coulson's Egg Food makes better eggs and more of them. chicks and raises more of them. For particulars write

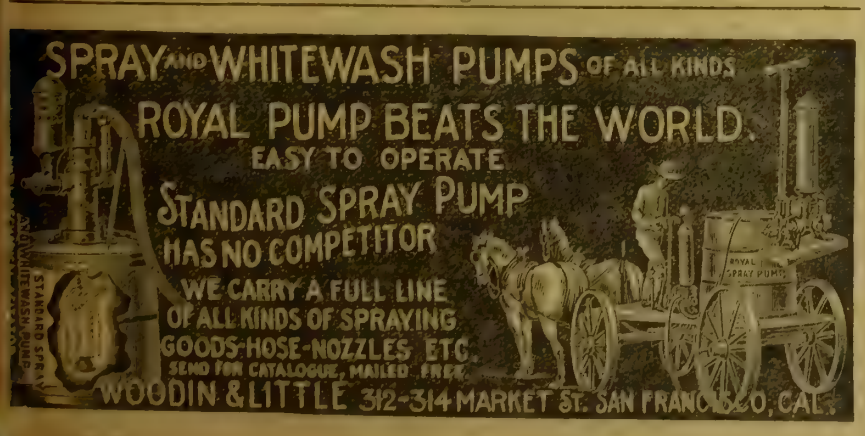
A. R. COULSON,
PETALUMA, CAL.

The next issue will be an interesting one.



John McDonald's 800 acre Poultry and Dairy farm; over-looking Tomales Bay. The white buildings are poultry houses. On this place Coulson's Poultry Foods are used, Mr. McDonald purchasing it by the carload.

Preparing the feed for a couple thousand laying hens. Mr. McDonald mixing up 2 sacks Coulson's Egg Food with 10 gallons hot milk from the creamery.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Los Angeles Markets.

Los Angeles, March 17.

Pursuant to the better conditions, as a result of the recent rains, the local markets have taken a lower tone in nearly all lines.

The producers are satisfied generally as to the outlook for new crops, and conditions that were prevailing a short time ago, which were critical, have now taken a turn that is looked upon with much satisfaction by both the grower and consumer in local points.

The demand for the increasing supply is reported to be very good. Quotations are as follows:

Butter.

B. of T. Cream', 2-lb roll		50
So. Cal. Dairy, do	43	45
Cold Storage		40
Cooking, per lb	18	19

Cheese.

Cal. and 3-lb. hand	18
Cal. Downey and Anchor	16
Northern	12
Swiss	19
Imported do	28

Eggs.

Fresh ranch	17	18
Store, case count	16	16½

Poultry.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

Prices remain firm at last week's quotations. Best beeves are in very good demand.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Heifers, cwt	3 00	3 75
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

River, per cwt		1 70
Oregon, do		1 80
Local Sweets, white		3 00
Early Rose seed	2 25	
Pinkeye, do		1 60
Nevada Pearls, do		1 60

Vegetables; Mixed.

Onions, yellow per cwt	2 50	3 00
Nevada, fancy do		3 00
Beets, per 100 lbs		1 25
Cabbages, do		1 25
Green peas	02	05
Lettuce, per sack		40
Tomatoes, 25-lb crate		1 25
Celery	35	40
Hubbard squash, per ton		15 00
Carrots, per sack		85
Chiles, string		75
Cauliflower, per doz		35

CITRUS FRUITS; FRESH

Fancy, 126s, per box	2 00
Do, 150s	1 50
Do, 176s,	1 25
Do, 200s,	1 00
Standards	50
Lemons, fancy, per box	1 50
Standard, do	75
Grape Fruit	1 25
Limes, per 100	90 1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower	1 75
Four ½ tier, do	1 50
Pears, Winter Nellis 40lb bx	2 00
Northern apples, 40 lbs	1 00 1 50
Strawberries	12 20
Loquats	05

Fruits; Dried.

There is practically no interest shown in dried fruits. Market steady at the following prices:

Apples, evaporated	06	07½
Apricots	08	10
Peaches	06	08
Raisins, per box		3 00
Raisins, loose	07	08½
Prunes	03	06
Pears		12

Beans, Dried.

Beans are selling well, particularly the large varieties.

Pink	3 75	3 80
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 40	3 60
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½

Hay and Grain.

Alfalfa		15 00
Tame oat		13 00
Barley hay	12 00	14 00
Wheat hay		14 00
Wheat	1 35	1 45
Barley	1 12½	1 15
Oats	1 25	1 35
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, March 16.

Dairy.

The demand for butter has been active this week, owing to delayed receipts from the storm.

BUTTER—Per lb:

Creamery, extras	23 @23½
Dairy, extra	19 21
Dairy, choice	17 @18

CHEESE—Per lb:

Cal. Creamery, mild new, extra	12
Cal. Creamery, mild new, choice	10 @11
Young America	11 @12½
Eastern, New York Cream, Cheddars and flats, new	15 16

Eggs and Poultry.

The supply of eggs is daily heavier and values are consequently normal.

EGGS—Per doz:

Ranch, selected large	18
Ranch, good to choice	17 @17½
Store	16

Trading in poultry has been fairly active all the week but prices hold about at last quotations.

POULTRY—Old Roosters, per doz., $5@5.50; young Roosters, $6.50@7.50; Fryers, $5.50@6.50; Broilers, large, $5@5.50; small, $4.50@5; Hens, small, $5@6; large, $6.50@7; Ducks, per doz., old, $5.50@6.50; young, $6.50@7; Live Turkeys, per lb., 16@18c; Dressed Turkeys, per lb., 20@22c; Geese, per pair, $2@2.25; Goslings, $2 @2.25; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.25@2.50.

Fruits and Vegetables.

The orange market continues in bad shape with free supplies offering at uneven prices and the general movement restricted within narrow jobbing confines.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 50c@$1.25; fancy, $1.50@1.75.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1@2; standard to choice, 50c@$1.25, according to size; Seedlings, nominal; Lemons, $1@2.75; extra, $3; Grape Fruit, $1.25 @2.50; Tangerines, 75c@$1.25; Limes, $6@6.50.

VEGETABLES—Asparagus, per lb., extra, 12½@14c; No. 1, 9@11c; No. 2, 6@8c; Tomatoes per box or crate, southern, $1.01@1.50; do, Mexican, $1.25@1.75; Rhubarb, per box, $2@ 2.25; Green Peppers, per lb., 10@20c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 10@15c; Wax, ——; Green Peas, per lb., Bay, 5@7c; do ,southern, 4@6c; Egg Plant, per lb., 10@20c; Summer Squash, per box, $1.25@1.50; Cucumbers, hothouse, per doz., 75c@$1.25; Mushrooms, per lb., 12½@25c; Marrowfat and Hubbard Squash, jobbing at ¾@1¾ per lb.

POTATOES—Per ctl., River Burbanks, $1.05 @$1.20; Early Rose, $1.50@1.60; River Reds, $1@1.10; Garnet Chile, $1@1.10; Oregon Burbanks, $1.25@1.40; Sweet Potatoes, $2.75; New Potatoes, per lb., 3@3½c.

ONIONS—Per ctl.: Oregon, $2.25@2.60; Nevada, $2.75@2.85; Green Onions, per box, 50 @75c.

Hops.

The price for new crop is 25@30c per lb, according to quality.

Beans.

BEANS—Prices per ctl.: Large Whites, $2.60 @2.75; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.30@3.40; Red, $4.50@5; Pink, $3.20@ 3.40; Bayo, $2.40@2.55; Blackeyes, $2.05@ 2.25; Kidneys, $4.75@5.

Live Stock.

Firmness continues the characteristic feature in the market for Live Stock and operators report a spirited trade in progress at maintained prices. Cattle and Hogs still lead in point of demand and offerings of A1 lots are sharply competed for at the highest values.

CATTLE—No. 1 Native Steers, 9@9½c; second quality, 8@8½c; thing Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4@5½c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4¾@5½c, gross weight; heavy, 4@4½c, gross weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs., and over, 5¾@6c; weighing under 130 lbs., 5½@5¾c; weighing 250 to 300 lbs. 5@5½c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

There is a drop of a dollar in the price of hay, with lower prices in sight.

HAY—Per ton: Wheat, $14@17.50; Wheat and Oat, $14@16; Oat, $12.50; Barley, nominal; Clover, nominal; Alfalfa, $12@13.

STRAW—Good to choice, per bale, 60@70c.

OIL CAKE MEAL—In lots of 20 tons, $29.50.

CRACKED CORN—Choice quality, per ton, $29@30.

FEED CORN MEAL—Choice grades, per ton, $29.50@$30.50.

GROUND BARLEY—Per ton, $23@24.50.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $24. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@ 5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 Shipping, per ctl., $1.38¾, choice, $1.41¼; White Milling, good to choice, $1.43¾@1.55.

BARLEY—Choice No. 1 Feed, $1.06¼@1.10; off grades, $1.03¾@1.05; Brewing, No. 1, $1.11¼@1.20; Chevalier, nominal at $1.20@ 1.40.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.37¼@1.45; small do nominal; White, $1.37½@1.45; Eastern, $1.30 @1.40.

CRACKED CORN—Choice quality, per ton, $30@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@ $1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

WOOL.

The first spring shearings are making their appearance in San Francisco. As a rule these early spring shearings are rather indifferent in character, and only appeal to scourers, because the fleeces are taken off before feed is sufficiently abundant to grow good sound wool.

Eastern Markets.

Grain and Produce.

CHICAGO, March 16.—The sentiment in the wheat market has been bearish all the week. The market has been feverish, owing to the weakness shown abroad and by reports from the wheat growing sections that rain or snow is badly needed.

Cash quotations were as follows: Flour was quiet and steady; No. 3 spring wheat, 88@ 97; No. 2 red, 95½@99; No. 2 corn, 51¼; No. 2 yellow, 52¼; No. 2 oats, 39; No. 3 white, 41@ 43; No. 2 rye, 72; good feeding barley, 37@40; fair to choice malting, 46@55; No. 1 flax seed, 1.10; No. 1 northwestern, 1.16; prime timothy seed, 3.05; mess pork, per bbl., 13.75@13.87½; lard, per 100 lbs., 6.95@7.00; short ribs, sides (loose), 6.87½@7.00; short clear sides (boxed), 7.25@7.37½; clover, contract grade, 11.25.

DAIRY MARKET.

On the Produce Exchange today the butter market was steady; creamery, 14@23½; dairy, 13½@21; eggs, easy at mark, cases included, 15½@16; cheese, easy, 10½@11.

Dried Fruits, Nuts, Etc.

NEW YORK, March 16.—The market for evaporated apples continues fairly active and firm, with prime held at 5½; in some instances a little higher; common, 4@5¼; prime, 5½@6; choice, 6@6¼; fancy, 7@7½. Spot prunes attracted a steady demand of hand-to-mouth character, but there are no large lots moving, and the general tone of the market is easy. Apricots are quiet, but remain firm as to prices; choice, 9½@10; extra choice 10¼@10½; fancy, 10½@13. Peaches are attracting some attention in a jobbing way, and rule about steady; choice, 6½@7½; extra choice, 7½@8; fancy, 9½@10.

CITRUS MARKETS

No especially encouraging features as to the price of oranges can be noted this week. The market seems to be in a feverish condition, with prices fluctuating daily, according to shipments. Ther has been something of a rise on small size California oranges, owing to softer weather which permitted cart men to retail the fruit on the streets. It is confidently believed, however, that prices will advance when the weather becomes settled and Florida shipments are over.

AUCTIONS.

NEW YORK, March 11, 1904.—Market firm, good demand for both large and small sizes. It is reaining steadily.

NAVELS.

La Mesa, Riverside, $1.95.
La Mesa, Riverside, $1.90.
Blue Mountain, Riverside, $1.75.
Red Mountain, Riverside, $1.75.
Victoria, Casa B. Sta., $2.
Golden Rule, Riverside, $1.95.
Echo, St. Ex., Pasadena, $1.40.
Arroyo, St. Ex., Pasadena, $1.30.
Selects, S. A. Ex., San Dimas, $1.55.
Golden West, C. C. U., Redlands, $1.30.
Clover, C. C. U., Redlands, $1.65.
Clover, C. C. U., Redlands, $1.70.
Rose, C. C. U., Redlands, $1.95.
Lion Head, C. C. U., Redlands, $1.90.
Tiger Head, C. C. U., Redlands, $1.60.
Tiger Head, C. C. U., Redlands, $1.60.
Blossom, C. C. U., Redlands, $1.45.
Redland Beauties, C. C. U., Redlands, $1.90.
Capitol, C. C. U., Highgrove, $2.
Yosemite, C. C. U., W. Highland, $1.95.
Scotia, Monrovia, $2.10.
Scotia (Improved), Monrovia, $2.40.
Orange Prince, Redlands, $2.10.
Orchard Queen, Redlands, $1.90.
Old Mission, Fullerton, $2.05.
Old Mission, Fullerton, $1.80.
Golden Eagle, Fullerton, $1.45.
Alta Mesa, Highland, $1.95.
Cloister, Riverside, $1.85.
Ruth, Riverside, $1.80.
Young America, Riverside, $1.75.
California Beauty, Riverside, $1.55, $1.70.
Cavalry, C. C. U., $1.60.
Signal, $1.75.
Clover Leaf, $1.95.
La Mesa (Ruby Bloods), Riverside, $2.30.
Victoria (Tangerines), Casa B. Sta., $5.
Fancy tangerines, C. C. U., Redlands, $4.70.

PHILADELPHIA, March 11.

NAVELS.

Uncle Sam, Riv., Pachappa, $1.80.
Uncle Sam, Riv., Pachappa, $1.50.
Silver Buckle, S. B. Ex., E. Highland, $1.20.
Lochinvar, S. B. Ex., E. Highland, $1.05.
Fiesta, Riv., Pachappa, $1.55.
Orchard Run, Riv., Pachappa, $1.65.
Alhambra, O. G. A., $1.80.
Gypsy Queen, C. C. U., Casa B. Sta., $1.55.
Gypsy Queen, C. C. U., Casa B. Sta., $1.45.
Carnation, C. C. U., Casa B. Sta., $1.35.
Carnation, C. C. U., Casa B. Sta., $1.35.
Coyote, O. K. Ex., Ontario, $1.55.
Golden Rule, Riv., Riverside, $1.70.
Golden Rule, Riv., Riverside, $1.65.
Young America, $1.75.
Coyote (Grape fruit), O. K. Ex., Ontario,
Sunflower, C. C. U., Redlands, $1.45.
Blossom, C. C. U., Redlands, $1.15.

MINNEAPOLIS, March 10.

Navel demand extraordinry, quality excellent; old stock well cleaned up; selling Fancy $2.25; Choice from $1.75 to $2, and the prospects are for better prices in the near future. Lemons are firm and selling from $2.75 to $3.25.—Gamble, Robinson Commission Company.
$1.75.
Golden Rule (Ruby Bloods), Riv. Ex., Riverside, $1.80.

BOSTON, March 11.

NAVELS.

Rey, St. Ex., Fernando, $1.85.
Tunnel, St. Ex., Fernando, $1.70.
La Mesa, Riv. Ex., Riverside, $2.05.
Golden Rule, Riv. Ex., Riverside, $1.75.

SAN FRANCISCO, March 11.

Coyote, O. K. Ex., Ontario, 75c.
Bald Head, O. K. Ex., Ontario, 45c.
La Mesa, Riv. Ex., Riverside, $1.20.
Golden, Riv. Ex., Riverside, 50c.
Squirrel, A. H. Ex., Arlington, 80c.
Golden Orange, A. H. Ex., Arlington, 80c.
Palm Tree, A. H. Ex., Arlington, 65c.

NEW YORK, March 10.

NAVELS.

Lion Head, C. C. U., Redlands, $1.85.
Tiger Head, C. C. U., Redlands, $1.65.
Sunflower, C. C. U., Redlands, $2.
Blossom, C. C. U., Redlands, $1.75.
Clover, C. C. U., Redlands, $1.60.
Mallard, C. C. U., No. Pomona, $1.60.
Carnation, C. C. U., Highgrove, $2.50.
Carnation, C. C. U., Arlington, $1.80.
Capitol, C. C. U., Highgrove, $2.10.
Artillery, C. C. U., Fillmore, $1.55.
Selects, S. A. Ex., San Dimas, $1.65.
Lochinvar, S. B. Ex., E. Highland, $1.40.
La Mesa, Riv. Ex., Riverside, $2.
Red Globe, Riv. Ex., Riverside, $1.90.
Red Globe, Riv. Ex., Riverside, $1.50.
Uncle Sam, Riv. Ex., Pachappa, $2.
Violet, D. M. Ex., Duarte, $1.50.
Parrot, S. A. Ex., Pomona, $1.60.
Jewel, S. A. Ex., Pomona, $1.45.
Squirrel, A. H. Prenda, $1.60.
Our Farm, S. T. Ex., Co. Farm, $1.55.
Gold Buckle, S. B. Ex., E. Highland, $1.50.
Silver Buckle, S. B. Ex., E. Highland, $1.40.
A. H. Ex., Prenda, $1.45.
C. C. U., No. Pomona (halves) $1.45.

BOSTON, March 10.

Atlas, C. C. U., Redlands, $2.10.
Golden West, C. C. U., Redlands, $2.05.
Sunflower, C. C. U. Redlands, $1.95.
Blossom, C. C. U., Redlands, $1.75.
Clover, C. C. U., Redlands, $1.75.
Clover, C. C. U., Redlands, $1.60.
Yosemite, C. C. U., E. Highland, $1.90.
Trophy, C. C. U., E. Highland, $1.95.
La Mesa, Riv. Ex., Riverside, $2.
La Mesa, Riv. Ex., Riverside, $1.55.
Swan, S. B. Ex., Redlands, $2.
Ben Hur, S. B. Ex., Redlands, $1.50.
Cream, C. C. U., Rialto, $1.65.
Minnehaha, C. C. U., Rialto, $1.60.
Trumpeter, C. C. U., Santa Ana, $1.40.
Camellia, C. C. U., Redlands Junc., $1.50.
Sky High, (Malta Bloods), C. C. U., Santa Ana, 95c.
Rialto (Lemons), C. C. U., Rialto, $2.55.

BOSTON, March 9.

Independent, Highland, $2.
Independent, Highland, $1.80.
Young America, $1.70.
Signal, $2.10.
Club House, $2.30.

NEW YORK, March 10.

NAVELS.

Independent, Highlands, $1.95; $1.80.
Ocean, Rialto, $1.95, $1.50.
Fountain, Rialto $1.45, 1.75.
Santa Fe, Rialto, $1.30, 1.45.
California Beauty, Riverside, $1.80.
Magnolia, Riverside, $1.80.
Cloister, Rub. Frt. Co., Riverside, $1.90.
Young Sports, $1.65.

Market five cents higher; good sell announced from stand today. Market will be from twenty-five to fifty cents higher on sound fruit next week.

Thirty-two thousand boxes of Sicily lemons, S. S. Dinnamare, were sold today. The condition of the cargo was good and there was no quotable change in price from last sale. The market is active.

The next sale will be Tuesday at which 10,000 boxes will be offered.

NEW YORK, March 14.

NAVELS.

Golden Orange, A. H. Ex., Prenda, $2.70.
Squirrel, A. H. Ex., Prenda, $1.85.
La Mesa, Riv. Ex., Riverside, $1.90.
Blue Globe, Riv. Ex., Riverside, $1.90.
Blue Globe, Riv. Ex., Riverside, $1.95.
Red Globe, Riv. Ex., Riverside, $1.65.
Red Globe, Rv. Ex., Riverside, $1.70.
La Mesa, Riv. Ex., Riverside, $1.95.
Iris, D. M. Ex., Duarte, $1.60.
Iris Improved, D. M. Ex., Duarte, $1.75.
Parrot, S. A. Ex., Pomona, $1.65.
Arrowhead, S. B. Ex., Highland, $1.80.
Parrot, S. A. Ex., Pomona, $1.70.
Jewel, S. A. Pomona, $1.65.
Azalia, C. C. U., Fullerton, $1.35.
Old Mission, Fullerton, $2.10.
Old Mission, Fullerton, $1.65, 1.80.
Golden Eagle, Fullerton, $1.40.
Golden Harvest, Rub. Frt., $1.85.
Golden Harvest, Rub. Frt. Riverside, $1.75.
Golden Harvest, Rub. Frt., $1.75, 1.85.
Ruth, Rub. Frt., Riverside, $1.80.
Orange Prince, $1.85.
Orchard Queen, $1.70.
Young America, $1.70.
Trophy, C. C. U., E. Highland, $2.30.
Trophy, C. C. U., E. Highland, $1.85.
Yosemite, C. C. U., E. Highland, $1.90.
Clover, C. C. U., Redlands, $1.85.
Clover, C. C. U., Redlands, $1.65.
Sunflower, C. C. U., Redlands, $2.
Blossom, C. C. U., Redlands, $1.70.
Atlas, C. C. U., Redlands, $1.75.
Rose, C. C. U., Redlands, $2.05.
Rose, C. C. U., Redlands, $1.85.
Lion Head, C. C. U., Redlands, $2.05.
Tiger Head, C. C. U., Redlands, $1.70.
Capitol, C. C. U., Redlands, $2.
National, C. C. U., Highgrove, $2.35.
Dansy, C. C. U., C. B. Sta., $1.55.
Ocean, Moffatt Frt., $1.85.
Fountain, Rialto, $1.70.
Ocean, Rialto, $1.70.
Fountain, Rialto, $1.65.
Santa Fe, Rialto, $1.60.
Independent, Highland, $1.90.
Independent, Highland, $1.80.
Alta Mesa, Highlands, $1.75. $1.85.
Mt. Harrison, $1.90.
Mt. Harrison, Highlands, $1.70.
California Beauty, Riverside, $1.85.
Mocker, $1.60; Robin, $1.55.

GRAPE FRUIT.

Independent, Highlands, $2.05.
Alta Mesa, Highlands, $1.50.
Mt. Harrison, Highlands, $1.90.
Orange Prince, Highlands, $1.75.

TANGERINES.

Fancy, Redlands, $5.50.
Blue Globe, Riverside, $4.10.

PHILADELPHIA, March 14.

NAVELS.

Stag, A. C. G., Glendora, $2.20.
Pointer, A. C. G., Glendora, $1.70.
Hunter, A. C. G., Glendora, $1.55.
Squirrel, A. H. Ex., Prenda, $1.55.
Red Globe, Riv. Ex., Riverside, $1.60.
Fiesta, Riv. Ex., Pachappa, $1.50.
Standard, S. T. Ex., Fullerton, $1.65.
Alhambra, Alhambra O. G. A., $1.60.
Lion Head, C. C. U., Redlands, $1.85.
Tiger Head, C. C. U., Redlands, $1.65.
Daisy, C. C. U. Highgrove, $1.65.
White C., Cov. Ex., Covina, $1.55.
Parrot, S. A. Ex., Pomona, $1.70.
Jewel, S. A. Ex., Pomona, $1.65.
Arrowhead, S. B. Ex., Highland, $1.70.

BOSTON, March 14.

NAVELS.

Trophy, C. C. U., E. Highland, $2.05.
Geranium, C. C. U., E. Highland, $1.70.
Cactus, C. C. U., E. Highland, $1.70.
Laurel, C. C. U., Corona, $1.65.
Princess, C. C. U., Corona, $1.05.
Atlas, C. C. U., Redlands, $1.75.
Rose, C. C. U., Redlands, $2.20.
Clover, C. C. U., Redlands, $1.55.
Camellia, C. C. U., Redlands, $1.50.
Blossom, C. C. U., Redlands, $1.40.
Blossom, C. C. U., Redlands, $1.45.
Pine Cone, S. B. Ex., Highland, $1.55.
Carrier, S. B. Ex., Highland, $1.45.
Arrowhead, S. B. Ex., Highland, $1.50.
Carrier, S. B. Ex., Highland, $1.35.

NEW YORK, March 15.

Market trifle lower account bad weather. Fruit showed age and decay.
Lion Head, C. C. U., Redlands, $2.
Tiger Head, C. C. U., Redlands, $1.65.
Blossom, C. C. U., Redlands, $1.50, $1.45.
Camellia, C. C. U., Redlands, $1.50, $1.45.
Ruby, C. C. U., Covina, $1.60.

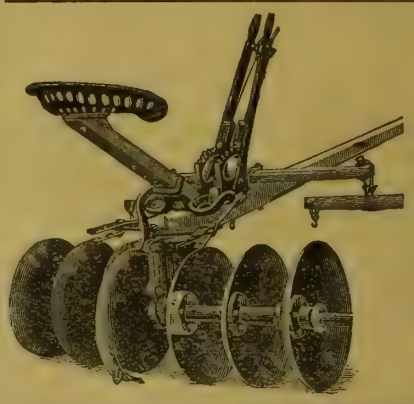
SAN FRANCISCO, March 15.

Sunflower, C. C. U., Redlands, $1.30.
Squirrel, A. H. Ex., Prenda, 70c.
Blue Globe, Riv. Ex., Riverside, $1.25.
Pet, S. A. Ex., San Dimas, $1.10.
Goddess of Fruits, S. A. Fr. Ex., Pomona, $1.25.

BOSTON, March 15.

La Mesa, Riv. Ex., Riverside, $1.95.
Carrier, S. B. Ex., Highland, $1.65.
Swan, S. B. Ex., Redlands, $1.50.
Red C, Cov. Ex., Covina, $1.25.
Echo, S. T. Ex., Pasadena, $1.30.

The mint at San Francisco turned out $21,796,000 for the month of February. The coinage included $21,580,000 in gold twenties and the balance in standard silver dollars. This is stated to be the largest coinage ever turned out of one mint in a single month in the history of the world.



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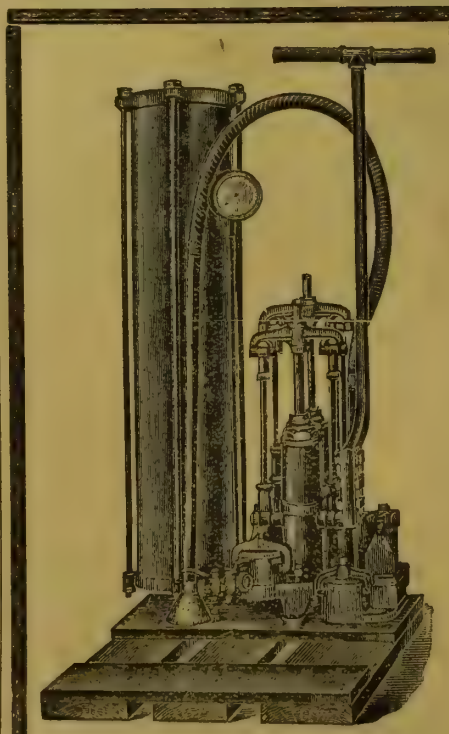

SAY!

Are your trees covered with moss or scale so that they can't get a healthy growth? You are sure to have small fruit from unhealthy trees. Instead of 6 per cent you will make 300 per cent on the money invested in a thorough spraying of your trees. But if you use a cheap squirt gun pump you may as well pour the material on the ground and save your time. Use a good pump and do a thorough job and you will get results all right. Our

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Sole Agents for California.

PHYSICIAN'S MIDNIGHT VISIT.

(Continued from page 283)

toward a door communicating with an inner room. As she reached it she fell back.

"Hark!" she cried sharply. "What was that?"

They both listened and for a moment there was nothing to be heard except the soughing of the wind. Then suddenly came a sharp sound—a quick, harsh click—and then suddenly followed it the sound of a window being opened.

"Hark!" she cried. "Oh! my God, they've found him out—they've followed. Oh! my poor father."

She ran forward instantly, and, flinging open the door, dashed across toward an old man who sat listless and bent over the fire.

She ran swiftly, but she was too late. Even as she reached him a revolver shot rang out, and the old, bent and huddled figure dropped forward into her arms.

"My father!" she cried hoarsely. "Dr. Clement, for God's sake, save him—oh! save him!"

Dr. Clement was at her side in an instant, but one glance told him all he wanted to know. He took the old man out of the girl's arms and put him back gently on the floor.

"Water and brandy," he said quickly, "and the police—quick."

"The police?" she whispered.

Dr. Clement was busy, but he stopped to look up at her in surprise.

"Some one has shot your father," he began sharply; "surely"—

She stopped him.

"Not the police," she whispered, harshly. "Oh, not the police."

Dr. Clement stared.

"The man who did it," he said, quickly, "must be caught."

She shook her head, and then with sudden haste bent over her father.

He had dropped back, his head lolling on Dr. Clement's arm, his eyes looking up, and Dr. Clement, bending hastily, caught his last words.

"Not the police," he whispered, "not yet—keep me safe—for a little while—until I am dead."

His voice stopped. Dr. Clement looked at him curiously, and then Ida flung herself to the floor beside him.

"Oh, father, father, what shall I do?" she cried.

The old man stretched out a feeble hand.

"Try to explain," he said slowly. "I—am not—quite as bad—as they think. I didn't mean"—

His feeble voice died away. Ida crouched beside him, holding his hand.

"Oh, father!" she sobbed.

* * *

A little later Dr. Clement was looking into the eyes of a girl which were always the most wonderful eyes in the world to him.

"Tell me what it means?" he asked.

She faced him bravely.

"It means," she said, "that—that father was the missing solicitor—the man who absconded the other day."

Dr. Clement started and his face grew stern.

Ida put out her hand.

"Hear me," she cried. "He failed and ruined people and ran away, but oh, hear me. He wasn't quite as bad as they made out. He didn't do it from carelessness or on purpose. It all began two years ago. You know from the newspaper accounts that he was trustworthy and honorable then; you know that he had a good practice and that everything was all right then. But two years ago he joined a company that turned out to be a swindle. He didn't known it at the time—he didn't dream of it. There were big men's names on the board, it seemed all straight and honorable, and he put a lot of money—clients' money—into it; but a year afterward it began to go wrong, he began to see what was going to happen. At first he thought he could get himself and his clients out, but he couldn't and it ended by losing everything and coming here. Do you understand?

"He ran away," she whispered. "Oh yes, he ran away, but he did it for me. He thought if I could hide until I had learned how to earn my living it would not matter, and so we came here for me to learn to paint. I could do a little, and in a little while I thought I could do more, but I have had no chance. A week after we got here we found we were dogged. Some one had followed us—one of my father's creditors had found out where we were and waited, and tonight he managed to get in and"

Her voice broke and faltered, and Dr. Clement, foolishly perhaps, held out his hands to her.

"I understand," he cried. "I understand it all; and now you must come home with me. My sister will look after you for a bit. Your old housekeeper can come, too, if you like. But you must come away from this house."

"Oh, it is good of you," cried Ida.

Dr. Clement looked at her for a moment with a curious expression in his eyes.

"You will?" he said.

Ida lifted her head quickly.

"You will come for a while," he added, "and afterward—"

Who cared for the afterward? The word died in his throat. For the present it was sufficient that a girl's eyes were looking into his and a girl's hand lay on his arm. For the present it was sufficient that he was blind to everything else.

* * *

Afterward—a few days afterward—when Dr. Clement visited the old man who had believed himself ruined he found him jubilant. He had that morning received a sum of money representing half what he had lost.

"Bless you!" he cried; "we can manage on that, my wife and I. We can manage, thank God. And he couldn't have been as bad as we thought," he added. "After all, he meant well or he wouldn't have sent me back this."

He tapped the roll of banknotes, and Dr. Clement looked at him curiously, remembering the holes these same bank-notes had made in his own banking account.

"No," he said, "perhaps not."

* * *

And afterward, at the Elmchester parish church, a quiet wedding. And no one dreamed that the bride was the absconding solicitor's daughter, and everyone congratulated Dr. Clement.—The Tatler.

RECIPES

Eat Little, but Have That Little Good

Tomatoes and Eggs.—Put the tomatoes into boiling water for a few seconds to loosen the skin. Skin them and chop finely, add pepper and salt to taste and a shave of onion; put into a frying pan with a good lump of butter and fry until the watery part is consumed. Have the eggs (1 to each good-sized tomato) just mixed, not whipped; stir them lightly into the tomatoes with a fork for two or three minutes; turn out on a hot dish and serve with thin bread and butter.

* * *

Orange Salad—Four eggs, 2-3 cup sugar, 1 small teaspoon salt, 1 pinch cayenne pepper, 1 cup cream, butter size of walnut, 2-3 cup lemon juice, add very slowly. Twelve oranges, one-half as much celery. Cook dressing until it thickens. Mix with oranges and celery (chopped fine) and serve in lettuce leaves.

* * *

Jellied Chicken—One good-sized chicken, boiled until tender. When done put aside to cool, saving the liquor in which it was boiled. When the chicken is cold remove the meat, rejecting the skin and bones; crack the bones fine; put them with the skin and one small chopped onion, two bay leaves, ½ teaspoon celery seed, into a saucepan, add liquor in which chicken was boiled, simmer until reduced to one pint, strain and season; moisten a mould or pan with cold water, arrange a layer of chicken in the bottom of the mould, then one of slices of hard-boiled eggs, sprinkle lightly with salt and pepper, a little chopped parsley; add another layer of chicken, and so on until the ingredients are all placed. Strain over the chicken stock and stand aside over night to harden.

* * *

Fruit Pudding—Three-fourths box gelatine, 2 oranges, 2 lemons, 2 bananas, 6 figs, a few nuts blanched and cut into bits, and whatever other fruit that is pretty or available. Soak gelatine in ½ pint cold water one hour, add ½ pint boiling water, juice 1 lemon and 2 cups sugar. Strain, pour into mold until it begins to harden; add fruit cut into pieces. Serve with whipped cream or soft custard.

Although water is the natural element of geese, yet it is a curious fact that they fatten much faster in a situation remote from rivers or ponds. They should not be allowed to run at large when they are fattening, as they do not acquire flesh nearly so fast when allowed to take much exercise. Like other fowls, they may be brought by proper management to a great degree of fatness, but the period at which they are the fattest must be chosen to kill them; otherwise they will rapidly become lean again and many of them will die.—The Connecticut Farmer.

A very satisfactory summer arrangement for bedroom windows is to have fly screens outside the sash in one frame the full length of the window, so that the latter may be opened from the top and bottom without disturbing the screens. Screwed or bolted in place from the inside they also serve as a protection, not so complete, of course, as iron rods or a patent burglar alarm, but still something of a safeguard.

MIDLAND.

Do you feed the Midland?

That is, the Midland Poultry food. Lots of folks say its 'way up in its results. Dr. Nishkian, the chemist in charge of its manufacture is said to be one of the most expert chemists in the country, and that his combination in the Midland is on such scientific principles that no imitators can truly imitate.

It has been used up and down the Coast and is today a standby with many of the best poultry men. One car load is now in transit to the Petaluma Incubator Co., of Petaluma, and one to Henry Albers, of Los Angeles, and one to the agency in San Jose. In the East it has become the standard and is widely used.

Williams Bros., the Brown Leghorn breeders of Trinidad, this State, says:

Fruitvale, Cal., Oct. 5th, 1902.

Petaluma Incubator Co., Petaluma, California.

Gentlemen: We must say that we are very much surprised at the quick results from using the "Midland Poultry Food." A few days before the recent State Fair we began feeding our exhibition birds with this food, most of the matured ones not being through moult. Their combs developed in a few days, and they were in the very pink of condition, when by our usual methods it would have taken three weeks longer. We are convinced that "Midland Poultry Food" "hits the spot desired," for anything which so quickly and satisfactorily conditions birds for exhibition is the food to use for all kinds of poultry under all conditions. It produces good health. Very truly yours,

WILLIAMS BROS.

KEEP THE STOCK GROWING.

The Cultivator has often referred to the necessity for keeping stock growing right along. This not only refers to colts and pigs, but especially to cattle. Let it be remembered that if an animal is not kept growing as quickly as sufficient and suitable food will make it grow, the cost of maintenance is largely increased. It is increased in proportion to the extent to which growth is hindered from want of a sufficiency of the right kind of food. An animal that through inattention or improper feeding stops growing, loses its capacity to utilize food in the best possible manner. This is very clearly shown in the difficulty experienced in putting a fine finish upon animals that have been stunted when quite young.

"Eggs are going like hot cakes. Have had excellent returns from my ad. in the Cultivator." So says H. H. Holland, of the El Oro Poultry Farm of Fresno. Its a mighty good combination—well bred stock advertised in the Cultivator.

J. W. Bairstow writes that he still has some of those famous Tilton apricot trees in stock; also a number of peach trees. The Tilton has proved a sure bearer every season and should be largely planted this season.

A. R. Rideout, the berry grower of Whittier, writes: "I am well pleased with the result of my ad. in the Cultivator.

James R. Townsend Francis M. Townsend
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SALT LAKE ROUTE
SATURDAY, MARCH 12
On and after above date regular Passenger Train service between Los Angeles and Riverside will be inaugurated over the new line of the Salt Lake Route on the following schedule: Leave Los Angeles—8:00 A. M.; 10:25 A. M.; 2:35 P. M.; 5:25 P. M. Leave Riverside—6:35 A. M.; 8:20 A. M.; 12:30 P. M.; 4:00 P. M. This is the
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from the Seashore and Los Angeles to Riverside, Pomona, Ontario and interior points in California.
Theatre Trains every Saturday Night from Ontario and Pomona to Los Angeles.
SEE AGENTS FOR PARTICULARS

ALIAS SUMMONS.

No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

ALIAS SUMMONS.

No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

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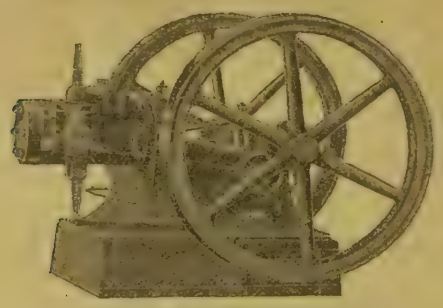

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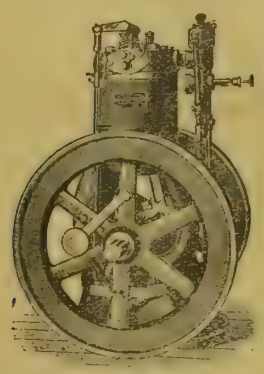

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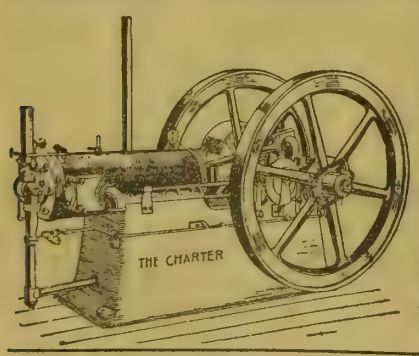

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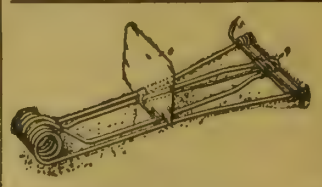

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California Cultivator

LOS ANGELES SAN FRANCISCO

MARCH 25, 1904

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IN THIS ISSUE:

Eucalypts for Timber (concluded)

Storing of Apples

The Large vs. the Small Dairy Cow.

Value of Milk Tests.

More Poultry Experiences.

Spraying and Fumigation.

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 13 LOS ANGELES, CAL., FRIDAY, MARCH 25, 1904 Subscription $1 a Year

A PRACTICAL FARMERS' INSTITUTE

A Visit of Representative Orchardists of Southern California to the Magnificent Orchard Property of the Riverside Trust Co.

"This has been a most instructive day."

"A delightful occasion."

"A most practical farmers' institute," and other like expressions were given as a party of fifteen, mostly representative orchardists, parted on the railroad platform at Riverside last Monday p. m., and bade each other good-bye.

The occasion had been an informal visit of the following named gentlemen to view the orchards of Arlington Heights section, and to learn of the methods of culture, picking, packing and so forth. The "so forth" is to cover "spraying," "fumigation" and a thousand and one other questions which naturally spring up when a dozen brainy fellows with eyes wide open get together.

The party consisted of W. G. Fraser, James Mills, and F. A. Little, of the Trust Co., and Arlington Heights Fruit Co., who were the entertainers: Prof. A. J. Cook and Prof. C. B. Sumner, of Claremont; C. C. Chapman, Fullerton; Frank L. Palmer, North Pomona; C. C. Teague, Santa Paula; C. E. Ramsey, E. L. Koethen and R. P. Cundiff, of Riverside; and the press was represented by A. F. Clark, of the Riverside Press; Mr. Hartrauft, of the Fruit World; and Mr. Messenger, of the Cultivator. Mr. Lefflingwell, of Whittier, was to have been present, but poor health prevented.

This movement was inspired by Prof. Cook, who recently visited the Arlington Heights orchards, and was so impressed with the thrift of the orchards and with the improved methods of culture and fruit handling as carried on under the direction of James Mills, superintendent of the property, that he at once set about getting an invitation for other orchardists to visit the ranch.

This property is owned by a syndicate of English capitalists which was organized by Matthew Gage, and, at first, was under Mr. Gage's management. The general administration is now in the hands of W. G. Fraser and James Mills is superintendent of the ranch, picking, delivery of fruit, etc., work, and T. A. Little has charge of the fruit packing and marketing, which is done by the Arlington Heights Fruit Co.

The property consists of about 2000 acres, of which 1500 are in oranges and 500 in lemons, and all is under the Gage canal. The older orchards are about eleven years old. The product this year will be about 600 car loads of oranges and 400 of lemons. This will necessitate the payment to the railroads alone of over $300,000 for freight.

The party met at the Glenwood Hotel on Sunday evening, to be ready for an early morning start. Messrs. Fraser, Mills and Little, and Mr. Hughes met the party with autocars and Oldsmobiles and proceeded to the ranch via Victoria Drive. Victoria Hill, with a magnificent view of valley and mountain, Roosevelt, Palm, Prospect Hill, from which a more extended view is had, are all passed. From the summit of Prospect is a view which we believe gives a sweep of the eye over a section in which more is invested and which produces more wealth from horticulture and agriculture than any of like scope in the world. At our feet lie tens of thousands of acres of regularly laid orange and lemon groves, still loaded with fruit, with irrigating canals and graveled roadways here and there. Beyond and north, were Highgrove, Colton, San Bernardino, Rialto and Bloomington, while around to the west were Ontario, Claremont, Pomona, Chino, and, nearer, Corona. All around this mighty ampitheater rose range on range of hills topped by snow-clad mountains. Mr. Chapman was appointed poet for the occasion but he confessed to shortage of words, though he did have the inspiration.

As noted above, the meeting of these orchardists was for study in a practical way of various questions of soil culture. The first halt of the autos was in a Valencia and lemon orchard, to witness the manner of irrigation. Mr. Macoun, the foreman, was on hand to explain the method. The holdings of the company are divided into three sections, designated as Osborne, Windsor and Balmoral, each section with a foreman.

Foreman Macoun had in hand a most difficult piece of irrigation. The rows were long, the grade very heavy, the soil of a nature to wash badly with a head of any size. The control was perfect. In fact not a drop was wasting at the lower end and in every furrow was only a tiny trickling stream, the final wash being prevented by a series of dams in the furrow, also by zigzag-streams, made possible by cross furrows, laid with plow, fourteen or fifteen inches deep. These furrows were made before the direct furrows were laid. There were only four direct furrows between rows, which Mr. Mills deems ample if the work is thorough.

But Mr. Mills' idea of thoroughness would paralyze some orchardists. For instance, he takes three days to get the water the full length of the row. The rows are 36 trees long—about 1200 feet. The water is started on the first day in a small stream, which gradually soaks its way toward the lower end. There the pockets and zigzag furrows force a still slower advance and after three or four days of such soaking the ground is saturated to a great depth. Handled in this way a thirty-five inch head will cover 25 acres and the work is so simple that one Jap laborer covers completely 280 acres every six weeks. If any one in California does cheaper irrigating than that it has not been announced.

One strong point in favor of the deep plowing for the check furrows is that it is fairly close to the trees and cuts many lateral roots which as Mr. Fraser remarked, "stops poaching." That is, a big, thrifty tree often fills the ground with surface laterals to that extent that a smaller tree near it is unable to establish itself against the stronger neighbor. Besides, it forces deeper rooting and consequent drawing on the lower soil for its moisture and nourishment.

(Continued on Page (293)

Prenda Packing House of Arlington Heights Fruit Co., Riverside.

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Friday, March 25, 1904

WHAT PROF. COOK SAID.

Some misunderstanding was created by the wording of Prof. Cook's article in this paper of March 4, and the Cultivator has been charged with the responsibility for this misunderstanding. In order that justice may be done the Cultivator and Prof. Cook, as well, we publish the introduction to the article, which was withheld because of the fact, as we believe, that the statement that fumigation is doomed is not correct, so long as it can be used to advantage on certain scale which distillate may not destroy. As the Cultivator has no interest in the methods employed by citrus growers to rid their orchards of ruinous pests except to encourage the best methods and the proper methods, to accomplish the desired end, it does not care to devote its columns to airing the opinions of the advocates of either fumigation or distillate spray. The truth is what we all want and the sooner it can be arrived at the better for the citrus growing interests of this State. Here is a part of the unpublished paper of Prof. Cook referred to above:

FUMIGATION DOOMED.

"It is with special delight that we see that the great promise of distillate spray, in the light of cumulative experience is more than realized. Over a year ago it was evident to every close student of orchards where spraying with this new and most valuable insecticide and fumigation were tried close side by side, that we had in the distillate spray a most valuable adjunct in our orchard work. It was clear, that it was, when thoroughly applied, as effective as the best fumigation, and more effective than most fumigation. This, with the fact that it was so very much cheaper, and the further fact that it could be done by daylight, and best done by the owner of the orchard, made its growth in popular favor most phenomenal. It is gratifying indeed to note how quickly people have grasped the situation and how generally they have adopted this better method of orchard management. It looks now as if fumigation tents would very soon be utterly relegated to the refuse heap.

I am led to these remarks by an item in a paper and a recent visit to the famous orchard of the Arlington Heights estate. We all know Commissioner Pease, of San Bernardino county. We all know how greatly he favored fumigation and with what good reason. In his hands it was a wondrous success, though very costly and laborious. The item in the paper is to the effect "that the Commissioners of San Bernardino county have discovered in some of the citrus orchards a prosperous colony of red scale." It is farther stated that "they have commenced spraying to exterminate this dreaded pest." One of our best inspectors, who, himself, is a recent convert to spraying, having sprayed his own orchard, lately advised fumigation for red scale. It seems that Mr. Pease knows of a better way."

The balance of the article published March 4 was exactly as Prof. Cook wrote it.

ORANGE MARKETING PROBLEM.

There is considerable agitation among the orange growers of Southern California in the matter of marketing their product. The past season has been fraught with unprofitable results and this situation has awakened an inquiry as to the underlying cause for the predicament in which the growers find themselves; also anxiety as to what the future holds for the orange industry.

Into the contention has come a journal with a scheme devised to lead the people out of the "slough of despond," in which they find themselves and to place the orange business on the high road to future prosperity. This scheme, or plan, or whatever it may be termed, contemplates the creation of a league of orange growers who shall, spartan-like, stand against all opposition and all odds, and force recognition of its rights, no matter at what cost.

* * *

It is asserted by those who claim to know whereof they speak that there is an ulterior motive in this apparent philanthropic Moses of the people; that behind the editor of the paper, so earnest in the orange growers' interest, is an ambition for political preferment. Whether this be the case or not is no concern of the Cultivator. "On the face of the returns" the motive appears honest and the cause defended is certainly just. So long as present conditions obtain it is the prerogative of any fruit grower to suggest plans for bettering the situation, for we all know something is wrong somewhere, or the fruit industry would not be in the critical condition which we find it at the present time. That the fault is with the Citrus Union, the Fruit Agency or the transportation lines we are not prepared to say at this moment, nor do we know as we shall ever be able to say. All we know is that the present season has been one of the most unsatisfactory to the grower he has ever experienced.

* * *

All his losses by frost, drought and other drawbacks from the elements, have not equalled the losses sustained this season, with a crop superior to any marketed in California for many years. The oranges, while fine in every particular, have sold so low in some instances, it is asserted, as to bring actual loss to the shipper.

Now, why is this?

A number of reasons have been assigned to account for this unhappy condition of the market, some of which appear to be worthy of consideration. The severity of the eastern winter—the coldest in thirty years—rendering transportation difficult and tedious; the appearance of the Florida crop of oranges which, for ten years or more, has not been a factor to consider in the marketing of California oranges; the high tariff charged by the railroads, and the insufficient number of cars put at the disposal of the California business, as well as the tedious and delayed routing have all had a tendency, not segregated, but collectively, to depress prices and bring the collapse of the market which has resulted in the present attempt to take heroic means to find out a remedy for the existing trouble, and to ascertain if the business of producing oranges may not again be made lucrative.

* * *

The charge is made that the marketing methods employed by the auction agencies are detrimental to the orange growers; that the Fruit Agency and the independent buyers have each sacrificed their fruit to damage the business of the other. This is denied by the Fruit Agency and by the independents, each of whom claims to have sold its consignments to the best advantage possible under the depressing conditions which affected the market.

* * *

One of the plans suggested to bring about a return of satisfactory conditions is the establishment of a central auction at some point in the State where all fruit may be sent and sold to eastern agents. This plan, it is alleged, would relieve the shipper of any charges beyond the point where the fruit is shipped, and place the responsibility of fixing eastern prices upon the agencies accepting the fruit.

In response to an enquiry made of President A. H. Naftzger as to the practicability of this plan, he writes:

"Answering your inquiry as to what I think about the proposition for establishing a market for California oranges by selling at auction at some central point in Southern California, say at Colton, I have to say that this is by no means a new idea. This idea was exploited in the newspapers of Southern California about eight years ago and has been discussed to some extent during these intervening years.

"Speaking plainly and using a somewhat familiar and rather significant term, I should say it is a 'pipe-dream.' Utterly impracticable. I can think of no single sound argument in its favor. There are many reasons against it, chief of which perhaps would be that we are obliged to have every possible medium through which we can distribute our rapidly increasing crops. The immediately available medium and the proper one, is the jobbing trade of the United States. There are probably 1500 to 2000 reputable fruit jobbers in the country, many of whom are doing business on limited capital, and are not in financial shape to come or send to California and buy fruit and pay for it here. They must have a quicker turn for their capital. This they can have by buying and paying for the goods on arrival in their market. It may be said in answer that this could be accomplished by accompanying the shipment with a sight draft to be paid on arrival. In this case the sale would be either in California, or it would not. If the jobber is obligated to take the goods on arrival he must of course necessarily buy them cheap enough in California to cover the possible risk of loss in transit, which would mean low prices. If he was not obligated to take the goods, then it is no sale at all, and the shipper is left with the goods on his hands rejected at the other end of the line and no facilities for marketing, and the serious situation would be completely demoralizing, but a further and even more serious objection to the plan is that even if the jobbers were willing to send a representative to California and buy fruit for them, the slightest disturbance of market conditions in the east would check the sales here, and create an instant blockade. For instance, in order to move the crop, we should be sending 200 cars a day steadily for a number of months. Suppose these were concentrated at Colton to be sold at auction. Markets were heavy in the east. The buyers simply say no, and leave the fruit untouched. Tomorrow morning there are two hundred cars more offered, making 400 cars, and it looks worse to the buyers than it did the day before. The next morning, there is 600 cars, and within a week, it would be possible for the buyers by a little concert of action, to completely deadlock the business, and the growers would be helpless because they have no other avenue through which to sell the goods.

"If it be answered they must maintain selling facilities to dispose of the fruit in case it does not sell at auction, then there is nothing more to be said, because the attempt to sell at auction, unless it cover practically all the goods, would be a complete failure, because the jobber would be uncertain as to what other fruit was coming into his market, and would refuse therefore to buy in California. The proposition is merely another form, and an impracticable form of selling f. o. b. California. It is certainly a sound business proposition, and a desirable one to sell f. o. b. California as far as possible, but years of experience have proven that it is only possible to a limited extent. Therefore the question as to whether it was sold f. o. b. in car lots at private sale or attempted to be sold at auction is entirely immaterial. The real question is, can the crop be handled in that way? Experience has demonstrated that it could not be handled f. o. b., and the objections, as I have stated, to an attempt to do so by selling at auction are much more fatal to the project. I can think of no good that could possibly come of such an attempt, except to afford an opportunity for a few brokers to act as buyers for eastern jobbers, and get their commission for so doing.

"I believe that our relation to the jobbing trade in the United States is such as to put us in as close relation to them as anybody can be in the business, and our information is to the effect that the jobbers have no desire whatever to pursue a policy of this kind. We have almost innumerable voluntary statements from the best trade the country over to the effect that they prefer to buy their goods where they can inspect them and see exactly what they are buying, and whether the goods are suited to their particular trade, and pay the market price at the time.

"I have said this much because you have requested me to say something on the subject, although I must frankly state that I do not consider the question of any real importance, because it is so entirely impracticable, as not to appeal to business men. It is purely visionary.

"Very truly, A. H. Naftzger."

On Wednesday of this week a meeting was held in this city between representatives of the railroads, consisting of the following: Southern Pacific, J. C. Stubbs, traffic director; William Sproule, freight traffic manager for California; George A. Parkyns, assistant general freight and passenger agent, and E. O. McCormick, passenger traffic manager. For the Santa Fe, Paul Morton, third vice-president; W. B. Biddle, freight traffic manager; Mr. Chambers, general freight agent, and J. L. Leeds, manager of the Santa Fe Refrigerator Dispatch.

The California Fruit Agency Committee consisted of A. H. Naftzger, president; F. Q. Story and Thomas O'Neill, vice-presidents; G. W. Felts, secretary; F. P. Fay, Los Angeles; A. P. Harwood, Upland; E. S. Moulton, Riverside; E. F. Van Luven, Colton.

The discussion between the parties at interest was prolonged and heated. The representatives of the carrying lines, Mr. Morton, Stubbs and Sproule, stoutly maintained that the low prices of oranges are not caused by competition with other sections of the country, but by competition between the shippers of California themselves. The continued low prices are caused by the conflict between these interests, not by the tariff charged by the railroads nor the manner in which the fruit is handled in transit, they said. To this assertion Mr. Naftzger demurred in strong terms.

"I deny the statement that the cutting continues incessantly," declared President Naftzger. "No one but a novice would believe it. You men charged with maintaining this tonnage and directing the affairs of your corporations, need to study these questions and get a better understanding. When a competitor cuts 5 cents a box the larger seller does not always cut. To the contrary the larger seller in 90 per cent of such instances holds off and lets the little fellow shoot his jolt, and get out of the way. Certainly, except in instances of extreme warfare for coveted territory, the cut does not extend beyond one or two cuts.

"Mr. Morton makes a distinction between the competition among ourselves and the competiton from other orange-producing sections, as the cause of lower price levels. I have to say this, and I say it forcibly, and without fear that you can doubt it. It does not matter by what process the lower price level is attained—if it be from one cause, or if it be from another—when we have to sell oranges below the cost of growing and packing them hundreds of our growers are going to stop production, and you are going to lose the freight. Hug any delusions that you wish—we have arrived at that point where you are not going to have the goods to haul unless we can have a return price that will induce production."

Along this line the debate went on for over two hours but the result of the meeting was that the representatives of the railroads refused to make the reduction of 20 per cent on the freight rate on oranges requested by the fruit men, pleading that the railroads could not afford to haul the fruit for less than $1.25 per 100 pounds, the rate now prevailing.

* * *

At the conclusion of the conference Mr. Naftzger and E. S. Moulton issued the following signed statement.

"The conference was in relation to the reduction in the freight rate. This matter was taken up by the California Fruit Agency with the transcontinental companies in the summer of 1903, and somewhat extensive figures showing the cost of production and the selling prices of oranges was submitted to them in the month of September. A number of conferences were held about that time and between that time and the opening of the shipping season. The conference today was for further consideration of the same facts then presented, and further facts and data prepared by the California Fruit Agency bearing upon the question of the cost of growing oranges, the manner of packing and selling, the increase in production, and the bearing upon the whole industry of the freight rate, the committee asking for a reduction, it being generally understood that a reduction of 20 per cent would be asked for, although no specific figures as to the percentage of reduction were discussed in the conference.

"Every question bearing on the matter in hand was fully and freely discussed, with the result that the petition for a reduction was denied by the railroads upon the ground that they could not afford to haul oranges for a less rate than that now prevailing, namely, $1.25 per 100 pounds.

"The committee believes that it produced irrefutable figures showing that the orange business of Southern California cannot continue to prosper under the present freight and refrigeration charges. Theories were brushed aside, and the absolute facts covering the entire operations of last season were produced to sustain its contentions. The matter will not be allowed to drop here as the committee will continue its efforts."

Here it would seem the matter is at rest until the Federal Court and the Inter-state Commission shall determine the questions pending before them for decision.

Mr. C. W. Leffingwell Jr., has a very interesting paper in the Dairy department this week on the "Large and Small Jersey Cow." This paper was read before the Jersey Cattle Breeders' Association at its late meeting and elicited much favorable comment.

A New Industrial Plant.—One of the most important steps of recent date in the industrial line was the formation of a big steel company of well known capitalists, last Saturday, at San Diego. Its capitalzation is $100,000,000. Of that amount, one half has been subscribed and a contract for the plant has been let for $30,000,000. The name adopted is The Pacific Steel Company. It will build ships, engines, armor plate and mining machinery. Those engaged in the enterprise have no time nor money to waste on speculative schemes. It will be the largest industrial plant in Southern California. It means much for this section.

CITRUS FRUITS

A PRACTICAL FARMERS' INSTITUTE.

(Continued from first page.)

The cultivation is most thorough. It is deep. It is often done.

The first filling of the furrows is done with the weed cutter attachments, sometimes called cyclone cutter. Soon after the "chisel tooth" cultivator is set for six inches depth and while the beam is nearly nine feet long and has fifteen teeth, it is kept at six inches depth and though it is a load for the four mules, is readily handled by them and twenty to twenty-three acres per day is covered by the team. The orchardist who is looking for an easy running cultivator of light draft, which will be easy on the team, will be disappointed. The party soon had foot rules prodding the earth and the full six-inch depth was usually reached before the hard ground was felt.

Attached to the cultivator and dragged behind was a large chain to assist in pulverizing and leveling the surface. The depth to which the cultivation is carried resulted in a liberal supply of small roots clinging to the teeth of the cultivator, especially on the end toward the tree, but this has no objection to the orchardist who will irrigate deeply enough that the lower roots may have abundant nourishment.

The quality and amount of the work done by Mr. Mills' men called forth some comment, but he said it was all due to good men, well paid, well fed, and given to understand that the job ended with inferior work and that, when possible, promotion followed competent and intelligent work.

The perfect tilth of the soil has been made possible by the system of fertilization. Commercial fertilizers are used, but always with them cover crops and stable manure. These not only for fertility, but that the soil may be made of better mechanical texture. Without the addition of the vegetable mold in some form it is soon lost and instead of soil there is only earth. Earth which may contain all the requisite elements of fertility for the tree, but in such condition as to be unavailable. Not only that, but the possibilities of moisture retention in such soil is very low. Cover crops, deeply plowed in, is the cheapest form of adding soil fertility there is. It is not, however, the only method.

Where the perfect tilth has been given some trees have been carried by Mr. Mills with only one irrigation, and one block last year was carried through with no irrigation whatever until October.

Mr. Little next took the party in charge and the Prenda packing house was visited. This house is a mile and a half off the main line of the Santa Fe, but a spur has been run to it from Casa Blanca. It is the largest packing house on the tract. It is in operation the year around. The capacity of the house is fifteen cars per day of both lemons and oranges.

In the lemon department the Teague tent method is used. The tents are ten by ten by twenty feet and in each is stored about 600 boxes. Before placing in tents all lemons are washed, clean or dirty, no difference, all go through the washer. And the care with which they are handled is an eye-opener—that is to the layman who hasn't seen lemons handled recently. Picked like eggs, handled on springs, and lifted from boxes by hand. That is, excepting into the water for washing. There the box is carefully lowered into the water, turned upside down, the box lifted out of water. Washing carries the fruit on the surface of the water to the carrier, which as carefully lifts to cotton apron where six men sort as to color, yellow from green, and throw out any culls which passed the picker.

In the tents a record of conditions and ventilation is kept. Tent No. 17 was placed Feb. 29, ventilated March 2, 3, 4, 5, 7, 8, and on the 14th was examined and found in good condition, etc. Ventilation is, of course, much more necessary at this season than during summer.

The sweat room is used to hasten the curing of a small portion of the fruit. A moist heat of 90 degrees is maintained for three or four days which fits the fruit for immediate packing. The shortest time possible where sweat room is not used is two or three weeks. The sweat is not advised as preferable when time may be had, but more for use in case of an emergency. J. H. Urquhart is the foreman of the packing house.

Then came luncheon at one of the ranch houses, but while waiting the whole party strolled through the stables, where perfect cleanliness and all conveniences are to be seen. For instance, one convenience is a clipping machine. All the work horses are clipped twice each year, which aids in cleanliness and consequently in the healthfulness of each animal. All of the buildings are lighted by electricity.

Disc plows are largely used, three discs being handled by four horses. These are considered best for turning under cover crops. L. R. Hughes has charge of the shops where all tools are kept in condition for the best work.

At luncheon table there was no dearth of good things, neither were the minutes wasted as to expression of opinions and seeking information, which had characterized the forenoon's intercourse. Prof. Cook acted as toastmaster. Mr. Chapman proposed a toast which was joined in by all, standing, to Messrs. Fraser, Mills and Little, who had shown their abilities and qualifications by the magnificent success of those great orchards. Mr. Mills responded and said that much of the success of his efforts were due to ideas secured from a trip over Southern California, when he had visited many such places as those of Messrs. Chapman, Leffingwell, Teague and others, and had brought home and applied the ideas thus secured. It was just such trips as this which he considered of more value than any institute.

Mr. Ramsey, of Riverside, who has a beatiful place of nearly a hundred acres, spoke of his observations. He is a new comer, comparatively, but has kept his eyes open and his trees show that it was not in vain. He said his hardest task was to unlearn some things he was first told. For instance, he was told that stable manure made coarse, puffy fruit. This he had now unlearned. He had tried eighteen cubic feet of manure, to which he added two pounds of nitrate of soda to each tree, to see if he could puff fruit and had failed.

Mr. Teague spoke of the worth of those orchards as an example of what strength of character and push can do, and of the trip as the most profitable and pleasurable to him of any he had ever taken. Mr. Palmer sopke of his admiration for what he had seen, as did Messrs. Hartranft, Clarke and Messenger for the press.

Mr. Cundiff, horticultural commissioner of a district of over 20,000 acres of fruit trees, spoke of it as the largest and most free from pests of any in the world. He said the distillate spray had the unqualified approval of most of the people in his district. It is now applied by Mr. Mills at less than one-half cent per gallon.

That hour at the table is deserving a couple of pages in the Cultivator, but space forbids. The chug, chug of the autos called us out and we were away to the lemon orchards. Ten boxes of merchantable fruit to the tree. Loaded? Well! A hundred and fifty men busily picking. Cost per box for picking varies from six to eleven cents.

Thence to orchard recently sprayed. Clean and free from pests, trees in best of condition. Mr. Mills says all admit that the distillate will kill the scale if it hits it and he knows he can hit it. And he knows the gas will not kill all the scale and is too fearfully expensive.

But the time for parting came too early, and after a hasty glance through the Arlington packing house, where the oranges at the Arlington end of the orchards are shipped, Mr. Chapman left the party to take his train home, while the remainder took a seven mile spin along the famous Magnolia avenue for Riverside.

As noted at the opening, it was a most practical farmers' institute and more valuable than any other. It need not replace all others by any means, for they are invaluable to many who would get but little inspiration to better work were it not for them. Farmers need to remove the scales from their eyes as well as from their trees.

To accomplish this an institute is good; one on wheels is better.

Is Fumigation Doomed?

O. A. Day.

In the Cultivator of March 4th, appears a statement that "fumigation is doomed." This statement seemed to have been based upon newspaper report that the San Bernardino Commission are spraying for red scale and that with three fumigations within 18 months of the Arlington Heights Fruit Company's 80-acre lemon orchard, the red scale had steadily increased; that later a single spraying of this orchard with distillate was an entire success. An investigation of these reports show, first, that the San Bernardino Commission have been spraying for yellow scale on large seedling orange trees, which are too large for fumigation, and whose branches are in many cases interlocked. Commissioner Pease writes: "For red scale we use fumigation only." On March 11th I visited the Arlington Heights Fruit Company's orchard, in company with the superintendent, Mr. James Mills, and the foreman of the company's spraying outfit. This orchard, reported to have been fumigated three times in 18 months, was never as a whole fumigated three times—or even once. Three inspections, some months apart, were made for red scale, and the scattering trees found infected with red scale were fumigated, after each inspection. I was informed by Mr. Mills that on account of a press of work, six weeks intervened between the inspection and fumigation of the trees, which would give time for the scale to infect adjoining trees. Out of an orchard of eight thousand trees the first inspection showed four hundred infected trees, six months later six hundred, and at the last twelve hundred infected trees. This season the orchard was sprayed, but the spraying was not an entire success, as reported, but on the contrary, a decided failure, as a large per cent of the scale on the fruit was not killed. This I verified by personal inspection.

The statement in the Cultivator of the relative cost of the spraying as compared with fumigation is misleading. The 45 cents per tree for fumigation was for the fumigation of scattering trees, while the spraying was for continuous work of the whole orchard. The man who made the statement in the Cultivator that fumigation is doomed, has frankly stated since then that he has had no experience with red and purple scale and that he has not had an opportunity to study red scale. Now his failure to have an opportunity to study red scale and the work upon red scale is because the orchards around Pomona and Claremont are so free from red scale, which fact is due to continued fumigation in years past.

Notice to Orange Growers!

NOW is the time to buy orange trees. The slump in the price of oranges has resulted in a corresponding slump in the price of orange trees, and it is not likely that you will ever again be able to buy first-class trees of every standard variety for so little money. Of course the shrewd grower has already procured his, and instead of yielding to the "blues," is now making preparations to set out that five or ten acres that are still vacant on his ranch.

In searching for trees, kindly bear in mind that we are headquarters in California for Citrus Stock. Our trees are perfect in every way, thrifty, and guaranteed true to name. Consult us and we shall be pleased to quote prices that will not alone interest, but will positively surprise you.

Awaiting your commands, we have the honor to remain,

Yours Respectfully,

Armstrong Nurseries, Ontario, California

P. S.—First-class Citrus Trifoliata Seed Bed Stock now ready for immediate shipment.

LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

EUCALYPTS FOR TIMBER.

(Concluded.)

The principal uses of Eucalypt timber, as indicated in a previous article, are for fuel, for supports (either in water, in soil, or in the air) and for manufacturing purposes, the second use being more important than the first and the third more important than the second. Whe used as fuel, the timber is rapidly consumed; when used as supports, it eventually decays; but when used for manufacturing purposes it may last indefinitely.

In Australia, where as native forests these trees are found ready-grown for use, a large number of species are utilized for fuel, but where they must be planted and growth awaited, only rapid-growing ones are suitable for culture for fuel. Those that have proven to be best suited for this purpose here are E. globulus, E. viminalis, E. rudis and E. leucoxylon. All are rapid growing and at least one of the four can be grown in almost any section of the southwest. E. globulus grows where there is a fair supply of moisture and the mercury keeps within 27 degrees and 105 degrees. As E. viminalis endures greater extremes, it can be cultivated where the mercury keeps within 24 and 110. It grows nearly as rapidly as the Blue Gum in a climate favorable for the latter, and grows more rapidly than the Blue Gum in a less favorable climate. E. rudis endures greater extremes than either of the above, growing uninjured where the mercury keeps within 20 and 115 degrees. In a climate favorable to the two previously mentioned it usually grows a little less rapidly, but in a trying climate outstrips both. E. leucoxylon endures greater extremes than any of the above, growing without injury where the mercury falls to 18 in winter and rises to 115 and 120 in the shade in the summer. Its growth is not as rapid as of the others in favorable situations, and the trunks are usually crooked and leaning, but it will grow where the others will not. This species and E. viminalis are useful for little else than for fuel, while E. globulus and E. rudis are serviceable for several other important purposes.

* * *

Of the larger number of species that are used in Australia for supporting timbers of various kinds, at least the following have proven adapted to various parts of the southwest: E. globulus, E. botryoides, E. sideroxylon, E. crebra, E. corynocalyx, E. rostrata, E. rudis, E. hemipholia, and E. tereticornis. Of these the Blue Gum will undoubtedly continue for some time not only to be the species most extensively set, but the one most generally useful. It has proven to be especially adapted to use as piles, the demand for this purpose continuing to exceed the supply. The wood does not last as long in soil as others listed above, but is serviceable for culvert and bridge timbers, for telegraph poles, and for railway cross-ties.

Of the above species, E. botryoides is especially suited for growth in warm, moist situations, not enduring heavy frost or dry heat. It can be grown where the soil is too moist for other species, and produces a timber suitable for posts and for other underground purposes. The two Ironbarks, E. sideroxylon and E. crebra, have proven adapted to parts of the southwest where the frosts are not heavy nor the summer heat too great. The former will grow on comparatively poor soil, but does not thrive where the mercury does not keep within 28 and 105 degrees; the latter endures somewhat lower and somewhat higher temperatures. Both produce a strong, durable timber excellent for posts, for railway ties, and for bridge material.

Five of the species mentioned above as furnishing supporting timbers for various purposes—E. corynocalyx, E. rostrata, E. rudis, E. hemipholia, and E. tereticornis—have proven well adapted to culture in the interior sections of the southwest. Of these the first two have been grown most extensively, but the others will be planted more widely as their merits are better known. All produce timber useful for posts, for supports for electric wires, for railway ties, and for all other purposes requiring part or all of the material to be underground. E. corynocalyx and E. tereticornis thrive in very dry situations, and the other three seem to grow equally well in moist or in dry portions of the southwest. E. rostrata and E. corynocalyx can be grown where the mercury keeps within 24 and 110, and the others endure considerably lower, and somewhat higher temperatures. There are few situations in the valleys of the southwest where one or more of them cannot be profitably grown for timber, and all are useful for fuel, if it is desired to make such use of them.

* * *

Of the many species whose timber is used in Australia for manufacturing purposes, E. citriodora, E. crebra, E. diversicolor, E. globulus, E. rostrata and E. tereticornis are adapted to extensive culture in the southwest. E. citriodora can be grown successfully only where the mercury keeps above 25 degrees and where the atmosphere is not too dry. E. diversicolor and E. globulus endure lower temperatures and somewhat greater aridity; and the remaining three, as already stated, endure still more trying climatic conditions.

Of the above six, several grow rapidly enough to make their culture for the manufacture of lumber in this country entirely practicable. The one that will probably prove the best adapted to the purpose is E. diversicolor. It does not grow quite as rapidly as the Blue Gum, but furnishes better timber, and is one of the most useful lumber trees of Australia. The trunks are tall and straight, and the wood straight-grained, making it especially valuable as a lumber-producing tree. The two Red Gums (E. rostrata and E. tereticornis) usually grow a little more slowly, but produce a durable, close-grained wood of a rich red color, that is suitable for a great variety of manufacturing purposes.

E. citriodora and E. crebra would not as a rule produce the quantity of lumber that the others mentioned would, but it would be very valuable. The wood of both is tough and elastic, that of the former being grayish or yellowish, and that of the latter darker. Both are suitable for carriage making and for the inside finishing of dwellings.

The various uses to which lumber from the above species would be put can not be fully foreseen. When there once becomes a supply of material, the uses for it would multiply and the demand for useful timber of all kinds would increase. As industries resulting from the growth of the above trees develop, other species will undoubtedly be found desirable for culture in various portions of the south and southwest, and even now several other species may be safely planted. The safest ones to plant, however, are thought to be the ones discussed above.

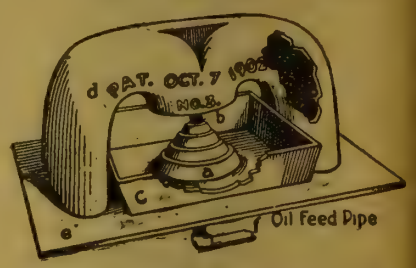
TO KILL BIRDS AND SAVE 'COTS.

English sparrows are becoming so numerous in parts of California as to be a nuisance. How to get rid of them is a question which is troubling farmers to solve. If they put out poison in grain the birds die, but valuable cats and dogs are likewise killed from eating the birds.

Prof. Wickson makes the following suggestion as how best to dispose of the sparrows without killing valuable animals:

"You can poison English sparrows by cutting oranges in halves, spreading strychnine thinly over the cut surfaces and putting the halved oranges on twigs high up in tree where they cannot be reached by children. The birds will scoop out the pulp and be poisoned thereby and will not get enough strychnine to make their carcasses dangerous to cats. If you find they take the poisoned wheat more easily you can poison it yourself, using less poison than is used for squirrels, taking say one pound of wheat and stirring into it a little syrup made thin by the addition of water and then sprinkling a little powdered strychnine over it, stirring well to distribute the poison. In this way each bird will get too little strychnine to make his carcass dangerous to cats."

In Tulare county the farmers raised a fund to pay a rainmaker to make it rain. The result of the effort is thus described by the Lindsay Gazette: "In the first attempt it was demonstrated that if the bombarding had any effect at all (?) it served to drive the clouds away, as the weather commenced to clear after the bombarding. The clouds also refused to shed tears as a result of the second attempt. Thus has a good portion of the cost of a well and pumping plant gone for naught just to satisfy one person's freakish hobby."



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A WORD ABOUT FIGS: We sell the genuine Fig of Commerce. Our cuttings came from bearing trees in the orchard of the Stanford estate, near Vina, and the fruit from these trees, after being examined by the best fig experts of the State, is pronounced the genuine Fig of Commerce, the Lob Ingir. Dr. Eisen says this and no other variety should be known as Smyrna, if the name Smyrna is to be used at all. We can refer prospective purchasers to the Supt. of the Stanford ranch, at Vina, for a verification of this statement. As to my own reliability, I can refer parties to any of the leading merchants of Corning, and to the Bank of Tehama County, and the Herbert Kraft Co. Bank, at Red Bluff, Cal. No one in the Unites States originated the Commercial Smyrna Fig. It is a variety which has been grown in Asia Minor for thousands of years. Parties may originate a fancy name and copyright it, but this does not make the fig they sell under a copyrighted name, any better. The fig we sell does not require a high sounding name to make it appear as the only commercial fig. All that we claim for our fig is that it is known as the Lob Ingir, the cuttings of which came originally from the famous orchards of Smyrna, Asia Minor, and is of the variety so largely imported into the United States in the dried state. We are not charging you for a private copyrighted name, but we sell you good 2 to 4 foot trees of the Genuine Smyrna Fig of Commerce at $150 per M. To fully demonstrate the methods used by some nurserymen in giving old varieties of fruit trees a new name and thereby make it appear that they have the only genuine article, we will say, how ridiculous it would be if we copyrighted a name like "Muro" and sold the old variety of Muir Peach under this name. Do not be misled by copyrighted names. We have the genuine Smyrna Fig of Commerce and if you want to confirm our statement, we do not hesitate to refer you to the above named parties. We can supply prospective planters a small sample of our dried figs for comparison with the so-called copyrighted figs. We also have for sale all varieties of Capri Fig trees, and all of our customers will be supplied at the proper time with a colony of Fig Wasps, free of cost. Address

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SEED BED STOCK...

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Extra Fine Lot. Absolutely Clean

James Mills - Riverside, Cal.

BY J. W. MILLS, ONTARIO, CAL.

STORING OF APPLES.

Last week we referred to Bulletin 48 of the Bureau of Plant Industry. Following are some of the important results recorded in it. As regards the time to pick apples for storage, the results indicate that they should have reached full growth and high color before harvesting, but still be firm and hard when picked. Such fruit equals in keeping quality and often surpasses partially colored or less matured fruit. It is superior to such fruit in flavor and texture, more attractive in appearance, more salable, retains its flavor longer and is less subject to apple scald. Overripe fruit deteriorates rapidly unless placed in cold storage soon after picking.

In experiments with some unusually large Tompkins King and Sutton apples, picked from rapidly growing young apple trees, the fruit that was but three-fourths colored kept much better than fully colored fruit. When in February fully colored Tompkins King showed 28 per cent of physiological decay, while lighter colored fruit from the same tree, picked and handled in the same manner, showed but 10 per cent of decay. In another instance small mature fruit from older, slower growing trees kept well until the middle of April; while the commercial limit of fruit from young, rapid growing trees, in cold storage was sometimes 3 months shorter. Late varieties of fruits may be picked when they commence to mellow, provided they are handled with great care and stored immediately in a temperature of 31 to 32 degrees F. As a further protection, however, such fruit should be wrapped and stored in boxes.

As a means of securing better colored fruit, pruning to let in sunlight into the tree is suggested. Cultivation and fertilization that tends to make a vigorous growth and light colored fruit may be modified till the desired conditions are obtained. More uniform grades may be secured by picking trees over several times. This is especially desired in the case of a specialist working up a fancy trade in apples.

Relative to the effects on keeping quality of delay in placing fruit after picking in cold storage, the authors found that when the weather at picking time was cool, there was no apparent injury from delaying the storage of a large number of varieties of apples two weeks after they were picked. With warmer weather, however, a delay of two weeks seriously injured the keeping quality of the fruit. Rhode Island Greening, Tompkins King and Sutton apples picked when the temperature averaged above 62 degrees F., and stored within 3 days, kept firm until the following March without rot or scald; while fruit from the same trees not stored for two weeks after picking was badly scalded or decayed by January 1st. "None of the immediate stored fruit was scalded or decayed by the first of February, but the delayed Sutton and Rhode Island Greenings apples were soft and mealy, and one-third were scalded at that time, while nearly 40 per cent of the delayed Tompkins King were soft and worthless. The commercial value of these apples was injured from 40 to 70 per cent by the delay in storage."

Relative to Different Temperatures.—"The investigations indicate the ripening processes are delayed more in a temperature of 31 to 32 degrees than in 35 to 36 degrees F. The apple keeps longer in the lower temperature, it scalds less, the fruit rots and molds are retarded to a greater extent, while the quality, aroma, flavor and other characteristics of the fruit are fully as good and when removed from storage it remains in good condition for a longer period." Some fruits, when very carefully picked and handled, kept very satisfactorily at the higher temperature, but for general commercial work a temperature not higher than 32 degrees F. is recommended.

Wrapping the fruit with different kinds of paper appeared to retard the ripening of the fruit and to preserve it from decay several weeks or months longer than unwrapped fruit. Thus, the amount of decayed fruit April 29 averaged 17.6 per cent for 6 varieties when wrapped, and 41.7 per cent when unwrapped. Wrapping also prevents the transfer of rot through the packages and protects the fruit from discoloration, due to rough handling. A double wrapper proved more effective than a single wrapper. No important difference was noticeable in the efficiency of the different wrappers.

Closed pacakages have been found most satisfactory. In ventilated packages the fruits are likely to shrivel if stored for any considerable length of time. Small packages cool quickest and are therefore most satisfactory for delicate fruits or fruits in which it is desired to check the ripening process promptly. Cold storage fruit was found not to deteriorate more rapidly after removal from the storage house than other apples equally ripe. "Apples should be in a firm condition when taken from storage, and kept in a low temperature after removal. A high temperature hastens decomposition and develops scald."—Exerpts from Exp. Sta. Record.

The scald referred to is a discoloration of the skin of the apple. This develops on the fruit in cold storage or after removal from cold storage and makes the fruit unsightly and unsalable.

* * *

PERSIMMON GROWING.

Editor Cultivator: Do you think it would pay to plant persimmons in any quantity for the market? What variety would you advise planting? Where can reliable trees be obtained? Our nurseryman has but a few small trees and he does not know the name of them. How far apart should they be planted? How much water do they require and will they do well where there is no frost?—A. C. S., Whittier.

The price at which persimmons sold this winter would indicate that the demand exceeded the supply, but persimmon growing could quickly be overdone. The trees (Japanese varieties) bear young and abundantly. The fruit being almost without acid, renders its use very limited. Its use is confined wholly to eating out of hand and cannot be used as other fruits are, at least it has never developed any other use in this country.

Tana Nashi, Hachiya and Hyakume are perhaps as good varieties as can be had. They may be had from the large nurserymen of this State or through those who advertise in the Cultivator.

The trees may be planted twelve feet apart each way and thinned out when they commence to crowd. The Japanese varieties bear very young and do not grow very fast while carrying large crops. The trees will require as much water as apricot trees and more when loaded with fruit. Frost does not improve the quality of Japanese persimmons, as generally supposed. We have had one crop ruined by a heavy frost during the middle of December after the fruit was well colored.

* * *

SPRAY FOR PEACH WORM.

It must be borne in mind that this is the season to spray for the peach worm that burrows so much fruit. The worm comes out as soon as the young shoots appear and if there is a coat of lime, sulphur and salt on the tree the young and tender worms are killed by it. This wash may be applied when the trees are partly in bloom and no injury will follow.

The worms pupate in the forks of the trees where the bark is thick and heavy. No wash will kill them before they come out.

* * *

SQUIRREL POISON.

Editor Cultivator: Will you please give through your paper a formula for the destruction of squirrels and oblige many subscribers?—Subscriber, University.

During the winter and spring seasons, wheat prepared as follows is a very effective remedy: Take 5 quarts of clean wheat; scald with water; drain. Take 2-3 cup of white sugar, dissolve with sufficient water to make a syrup, add one ounce powdered strychnine, stir thoroughly until a thin paste is formed. Pour this on the damp wheat, stir thoroughly for at least 15 minutes. Add one pint powdered sugar, stir; add five to 10 drops of oil of rhodium, 5 to 10 drops of oil of anise seed. Place a few grains in each squirrel hole, putting it down as far as possible.

Oranges cut in halves and dosed with strychnine will do good work, as they are very fond of them. During the summer time, nothing will kill them faster than watermelon rind dosed with strychnine.

* * *

BERRY RUST.

Editor Cultivator: I write to get the formula for Bordeaux mixture for spraying vines, such as raspberries and blackberries, for fungus disease and rust. Does the spraying injure the vines when they are in full leaf?—C. H. E., Riverside.

Take two barrels and put 25 gallons of water in each and in one slack five pounds of quick lime and in the other dissolve five pounds of bluestone. Hang this in a sack just beneath the surface of the water so that it will dissolve quickly. Mix the two and you have five pounds of lime and the same of bluestone in 50 gallons of water. Stir well while spraying.

This wash will not injure the bushes when they are in full leaf. Better results will follow if you spray the ground and bushes well before they leaf out and again when the lower leaves are full grown.

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Conducted by PROF. A. J. COOK, Claremont, Cal

SPRAYING AND FUMIGATION.

Through an unfortunate mistake, my article two weeks ago in the Cultivator gave a very wrong impression, which I hasten to correct. Mr. Mills said nothing to me of the red scale, and, as I wrote the article, there was nothing that would have given the impression that he did. We did not discuss red scale at all. Indeed I did not know that red scale was a problem in Mr. Mill's orchard work. Mr. Mills comments upon "my mistakes." What I meant to convey," he says, "was this. That I had fumigated this tract several times in eighteen months, and that I had more than four times as much live scale as before I began; that I sprayed a portion of that with partial success, but was not satisfied, and that I proposed to use a stronger emulsion and try it again." I do not remember Mr. Mills saying anything like this last to me. We never mentioned red scale at all. From the printed article he supposed, as he had a right to do, that I had quoted him on that pest, and so says what he would have said, and I am glad to give it, as whatever he says is valuable. Mr. Mills says farther: "I did not intend to convey to you the impression that a neighbor of mine, having had his orchard sprayed by a contractor, for black scale, the same being a failure, then turned to me and had it done successfully." I did so understand Mr. Mills. He continues: "What I did mean to convey to you was that a neighbor of mine, who fumigated two years ago for black scale, and whose trees were again covered with these pests, having observed the splendid success that I was having, requested me to spray his place, and stated to me that it was every bit as good a job as the fumigation, and that there was not a living scale in his orchard." He continues: "I sprayed a very large tract for black scale with such excellent success that there is no question as to the merits of the mechanical mixture, and any one who examines the work must confess that, especially if he knew the condition of the trees when I began. There is absolutely no question in my mind as to our ability to exterminate the black scale with the distillate spray."

In a subsequent letter Mr. Mills says: "You made a serious mistake in saying that we had sprayed successfully for red scale (of course I made no such statement) after having failed with fumigation. Mr. Mills, as I understand him, thinks that fumigation will kill the red scale, but only a few trees will seem to be attacked, and as the cost of fumigation will be large, all the trees will not be treated, and so some of the scale will escape, and again people the orchard, and, as he says, "the last state of the orchard will be worse than the first." He believes that if all the trees were fumigated, the scale would be killed. He is not sure that the distillate will prove satisfactory against the red scale, though he hopes that it may be used strong enough to be effective. He says: "If I can control it with this, it will be much cheaper, if I can not, then I must proceed to cover the whole orchard. The spray, I am more than satisfied, will exterminate the black scale. I am not, however, satisfied regarding the red scale. I propose to get rid of it one way or the other."

I was possibly too quick to state "that the time was ripe to pronounce the doom of fumigation." I have had no chance to study the work against the red or the purple scale. Mr. Day thinks that fumigation is by far the best way to eradicate the red scale. Mr. Pease writes me that he thinks the same. He writes that it was the yellow scale, not the red, that he treated with spray. No one will speak a more hearty word for fumigation than I if it prove the best; I hope that a cheaper way will be found to battle that insect. We will all work and study to find the best way. If Mr. Pease succeeds with the yellow scale, then we can with the red, as they are really varieties of one species, and I hope that he and Mr. Day will both spray twice for the red scale within three weeks, as we could not hope to succeed with one application, as the old scale will not be killed, and there are always scale of all ages of this species on the tree at the same time. I hope some one will try as soon as hot weather comes, spraying twice at an interval of about three weeks. I can hardly see how this could fail to kill the red scale.

* * *

INSTITUTES.

I have a double request to say a word as to the conduct of Institutes. I am glad to do this as I have worked in Institutes in five different States, and know the different methods well. In expenditure, New York leads with $20,000 a year; Pennsylvania and Ohio are but little behind, while Wisconsin and Minnesota spend annually $12,000, other States run down to $5000 and a few even less. California now spends $6000. Nearly all States engage a staff of lecturers to do all the work. Wisconsin and New York often do this. Other adopt, as I believe, the wiser policy, and secure local talent for half of the papers. We can almost always get able persons in the place, and they know the local conditions and needs as no outsider can. We always try to have the program with a generous share of local talent. In Wisconsin and New York, etc., one person takes the question box, and answers all the questions. We try to get answers from experts in the audience. In New York and Wisconsin the conductor of the institute always presides. This is, of course, much harder for the conductor. At the special request of Prof. Wickson, I always preside at our meetings, unless there seems good reason to do otherwise. Of course the speakers will be selected by the manager. He will try to do this with great care. Prof. Wickson selects our staff, though I always suggest speakers as he asks me to do. Of course we secure any speaker that may be asked for by the people of the place. This explains the able addresses on "Direct Legislation," "Direct Primaries" and "Parcel Post." Of course these are in no sense partisan politics, but great questions that the people desire to hear discussed. We always avoid religious and political questions that are at all partisan as is done in all States. If our friends wish more, please ask specific questions.

* * *

TEXAS FEVER.

Mr. True reports Texas fever in San Dimas, Wash., and another disease, which, from his description, must be black leg. He asks if the dead animals are a menace, and if the disease could be brought in by the cattle in the cars. The cattle are a menace only that they scatter the ticks, and if the seed ticks get on any animal that has not had the fever, then it will almost surely have it and if not young, in good thrift, or if the weather is hot, such a cow or steer will likely die. If the disease is near us we must surely keep our cattle from any place where the ticks have dropped from other animals. The old ticks might drop from ticky cattle carried on the cars, and so the minute seed ticks be scattered. These seed ticks, however, are very small, and will crawl but a very little distance, and so unless our cattle walked or fed very close to the railroad track there would be little danger. As we all know there is a very efficient vaccine sent out by the Government for black leg. Those interested should read the articles in back numbers of the Cultivator, where the full history of the matter is given.

* * *

FERTILIZING.

Mr. John P. Englehart, Glendora, asks if growing a cover crop would cause later ripening of the oranges. If so, he would hesitate to grow and plow under one. I do not believe it would at all, especially if enough water was given for both trees and cover crop. I have never heard any one express any trouble of this kind. Will those who have practiced green manuring give us their experience in the matter of effect on the ripening of the fruit.

Mr. E. also asks if it is as well to cultivate in the stable fertilizer as to plow it under. We wish to get all the manure down where the moisture will help the decomposition, and where the rootlets can find and appropriate it. We ought to irrigate deep down so as to save water, thus it seems to me that plowing would put the fertilizer where it would do the most good.

Choice Fruit
and more of it is the aim of every orange grower.
Nitrate of Soda
(The Standard Ammoniate)
as a Top Dressing in the orange grove will bring young trees into bearing a year earlier and put them into condition to yield larger crops of perfect oranges.
My Bulletin on Orange Growing contains the best information obtainable from actual Experiment Station trials. It is a most valuable addition to the library of any horticulturist. It is free. Send your name and address on Post card.
William S. Myers, Director
12 John St., New York

RIVERSIDE NURSERY

CITRUS TREES

40 cts. and up

Trees are strong, vigorous, healthy. No Red Spider. No Black Scale. Do not forget this. Going out of the business. Want to sell. Come and see us.

Mills & Masters

Jas. Mills, Mgr. Riverside, Cal.

PRIME TREES, FANCY FRUIT, GOOD MONEY

Straight Tree Talk

There are three ways to tell a good Citrus Tree, viz: 1. How it is grown, to produce a strong root development; 2. Its appearance above ground, which must evince a symmetrical head, strong constitutional vigor, and cleanliness from scale and disease; and, 3. By its capability when planted in orchard form to produce a beautiful annual yield of fruit true to name. Our trees meet these requirements from every point of view, no matter where planted, so the natural conditions are anywhere nearly correct.

Straight Business Talk

With a "safe" rainfall this year, it is business sense on the part of all who contemplate planting orange and lemon trees this year, to secure their trees RIGHT NOW, in order to ensure a supply before our best specimens are all gone. Being the largest growers in the world, we are in a position to serve you better than any other one establishment. Bear in mind our prices are right, the goods are superior, and our methods of doing business up-to-date. What more can you ask for?

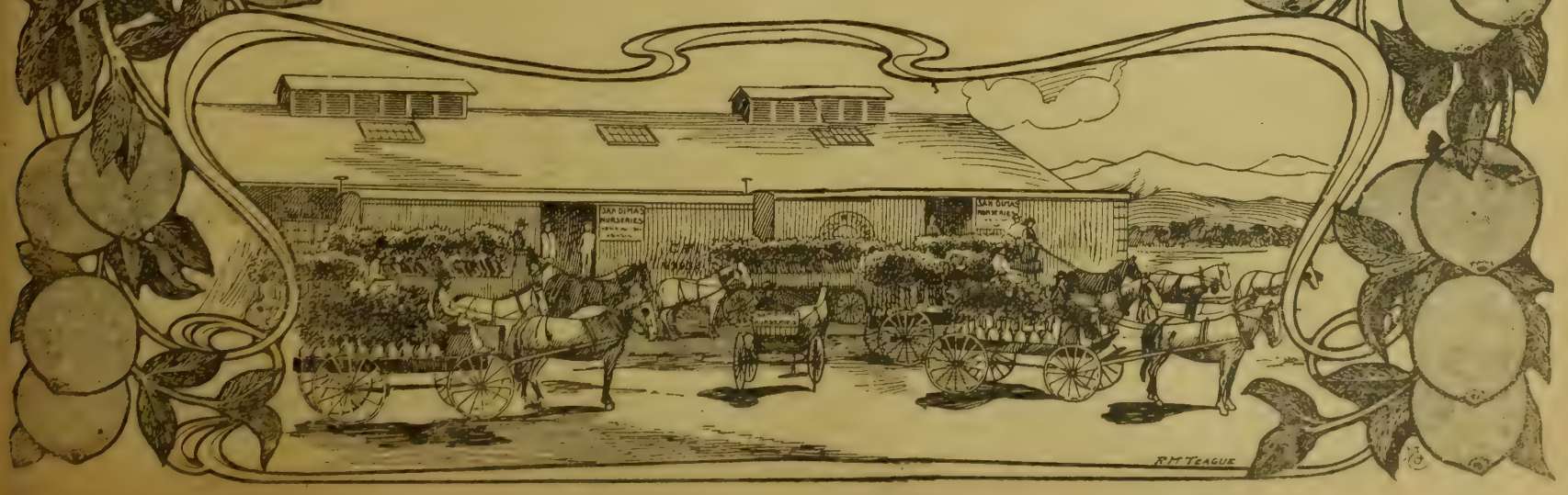
Straight Tree Tip.

Obviously a straight line is the shortest between two points. You are possibly interested in orange and lemon trees; are thinking of planting some. Be they few or many, you want to post yourself on orange and lemon culture, and the shortest way to get this information is to send for our treatise on practical citrus fruit culture. A copy of it is yours if you will write us briefly your wants and mention this advertisement. Correspondence a pleasure, May we hope that you will do it right straight off?

THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, SAN DIMAS, CAL., U. S. A.

Importers and Exporters of Citrus Trees to and from all portions of the world capable of growing the fruit successfully.



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Well Drilling
Wells drilled in first-class manner from six inches diameter to any size desired. Pumps installed
W. D. Anderson
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20,000 Citrus Trees
Now ready for delivery. Washington Navels and Late Valencias. First-class, reliable stock. Get our prices before buying.
POLLARD BROS.
Alhambra, Cal.

FRUIT TREES
Home grown, true to label, will GROW—not stand and sunburn
SPECIAL PRICES
to reduce stock. No reasonable offer refused. Peaches, Apple, Grape, Walnut, Etc.
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1000 E. 32d St. Tel. Home 7438
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Redlands Nurseries
Let us fill your orders for
—DECIDUOUS STOCK—
There is none better and our prices are the lowest. All home grown and only handled once
—OUR CITRUS TREES—
when seen on your neighbor's ranch, will make you sorry that you did not buy of us. Our prices are right and the trees will grow. Write us today for prices.
Redlands Nurseries
E. I. Martin, Prop. Redlands, Calif.

JURUPA NURSERY CO.
Growers of Deciduous, Citrus and Ornamental Trees and Vines
THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
SEND FOR PRICE LIST AND CATALOGUE
Jurupa Nursery Co. Riverside, Cal.

THE
Vernon Nursery
4524 CENTRAL AVE.,
LOS ANGELES, CAL.
Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.
We still have a few of the finest two year-old walnut trees ever grown in California.
You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.
A. YARNELL.
PROPRIETOR
4524 CENTRAL AVENUE
LOS ANGELES, CAL.

Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

MISCELLANEOUS.

The Lake Hemet Water Co. will build about five miles of cement irrigating ditches this spring.

The Dunbar Improvement Club of Glen Ellen, Sonoma Co., will hold a good roads convention on Saturday, April 30th.

The roads about Grass Valley are in bad condition, owing to the heavy rains of the past seven weeks. Over 52 inches of rain have fallen this season to date.

Last year there was built in the Imperial valley about 175 miles of woven wire fence, and the indications now are that 400 miles additional will be built this year.

The Supreme Court of the State last Saturday reaffirmed the decision of a lower court that the banks must pay taxes on their franchises. This affects all banking corporations in the State.

The Santa Paula water works is putting in a mile of flume from Santa Paula creek to the old Peralto ranch in Santa Paula canyon, and has closed a contract with Mr. W. P. Weber for setting 656 acres to walnuts on that property.—Chronicle.

It has been announced that the Santa Fe management will put in service a new transcontinental mail train which will probably be operated between Chicago and San Francisco and Los Angeles on faster schedules than any now in effect.

"Get together and boost," is the slogan of the Alameda Encinal to the citizens of that town. Improvement clubs everywhere are in evidence and the close of the year will witness marked growth along all lines of industry in California.

The census bureau has just issued a report on irrigation in Arizona in 1902 showing 247,250 acres irrigated, an increase of over thirty-three per cent since 1899. The system in operation represents a total construction cost of $4,688,298 and an average cost per irrigated acre of almost $19 against $24 in 1899.

Stanislaus, in the Sacramento valley, has built eighteen miles of oiled roads during the last year. In making the roads about two hundred barrels of oil to the mile were used on the first application, and after an interval of from four to six weeks, 100 to 150 barrels more were applied in the same way. Shovels were used to fill up all depressions with dirt or other loose material.

The finishing touches were put on by covering the entire oiled surface with natural loose material; that is to say, with the same kind of earth of which the roads were composed, and using a road grader for mixing and leveling the crust.

Commissioners Wiggins and Pilcher are having trouble with the labor unions in setting fixtures in the St. Louis exhibition buildings. The cases which are to hold the California exhibit can only be set by some one of experience, and Mr. Wiggins took a carpenter with him to do this work. The union labor leaders refuse to allow this carpenter to set the cases and there the matter rests.

It is rumored that Governor Pardee has in contemplation a proposal to abolish direct property taxes, for State purposes, and to raise the entire funds for the support of the State government from corporation fees and taxes. "Such a reform in our taxation system," says the Fresno Republican, "if properly carried out, would be constructive legislation of the highest character, and would stand for all time as a monument to the man who originated it."

Iowa stock shippers won a notable victory in the Iowa legislature this week by securing the pasage of a bill in the house without a dissenting voice, which provides that railroads must supply shippers with transportation to and from the point of destination.

HORTICULTURE.

A co-partnership of fruit growers is being organized at Corning to handle the fruit crop of the colony.

Tree planting at Imperial is very heavy this spring. One party is reported to have planted 15,000 and another 4000, mostly shade trees.

At the Farmers' Institute held this week at Elk Grove, near Sacramento, Prof. E. J. Wickson, Judge Peter J. Shields, Governor Pardee and Prof. A. R. Sprague were on the program for addresses.

The Sacramento Bee says the receipts of a 20-acre olive grove in the Sacramento valley the past year amounted to $6450. After the cost of picking, pickling and manufacturing was deducted a net profit of $5280 was shown.

Orange growers continue to sell despite the low prices received for fruit. Ira Duncan has sold his twenty-acre orange and lemon orchard west of San Dimas to H. A. Landweber, a Los Angeles merchant, taking in exchange residence property in Los Angeles, a twenty-acre alfalfa ranch in Riverside, and $2000.

C. C. Waite, of Riverside, who has been representing a large orange-shipping firm in the East during the past winter, predicts that there will be no improvement in the orange situation until shippers quit sending the crop out of the country without orders and without a market."

The Citrus Union is putting out about eight cars of pomelos and blood oranges this week. Up to yesterday morning four cars of the fruit had been shipped, which marks the first car shipments of the year. The blood oranges are from the grove of P. M. Baier, and the fruit is of excellent quality.—Lindsay Gazette.

A correspondent from San Dimas writes the Times that since the unsatisfactory condition of the orange market, there has been renewed interest in the lemon industry, many orchards having paid handsome returns and the prospects for the coming season were never brighter. There is a healthy demand for choice lemon orchards in San Dimas and La Verne.

The Citrus Union last Friday paid the growers the second payment on the January pool of oranges. Over $20,000 was distributed, 40 cents per hundred pounds being the rate, making the total 80 cents per hundred pounds on all grades of fruit. The growers were not expecting such returns, in view of the cold weather in the east, and consequently feel more hopeful as the market gives signs of improving.—Redlands Citrograph.

LIVE STOCK.

W. H. Samson, the nurseryman of Corning, is reported by the New Era as building chicken houses and brooders at his place, preparatory to launching into the poultry business.

The Hemet Creamery has leased the basement of the Hemet packing house. A new boiler has been bought and the machinery put in good shape. Hemet has a good creamery.

The Lompoc Record says that dairy cows are in demand in that section and that dairymen are planting beets, squashes and corn for late feed. The late rains have put growing crops in splendid condition.

A practical woman writes: "A woman on a farm can supply herself with pin money, in the raising of poultry. Eggs are always a good price nowadays, the year around, and chickens, especially early ones, command a high price. When the right time comes, ask your husband for just this one concession, that you have the poultry and the revenue therefrom. Last year from my chickens I sold $100 worth of eggs alone, besides raising about 500 young chickens.

MANAGER WANTED
In each vicinity; must be good writer, thoroughly responsible, and able to give good references. Those who need to earn extra money outside of regular employment preferred. A good position to right party. Address with stamp,
A. M. MORSE CO. LOS GATOS, CAL.

BERRY PLANTS
Gray's Gardena Dewberries. These berries are in the lead. Very early, best quality, heaviest bearers and good shippers.
For descriptive list address
W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

200,000 Strawberry PLANTS
Arizona Everbearing from Eastern Plants. Guaranteed to be first-class in every respect, not mixed with any other kind, at $1.50 per thousand, if ordered within ten days.
G. W. MULLENDORE Covina, Cal.

Strawberry and Dewberry Plants
Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.
A. E. Harrington Montebello, Cal.

150,000
Arizona Everbearing Strawberries
PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.
F. P. Baldosser, Covina

ONE MILLION IMPROVED
Gardena Dewberry
PLANTS FOR SALE
A. R. RIDEOUT Whittier, Cal.

CITRUS NURSERY STOCK
Valencias, Washington Navels and Eureka Lemon Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.
PERRY LEWIS TUSTIN, CAL.

WIRE FENCE
HOG CATTLE POULTRY RETTING BARB WIRE
WEST COAST WIRE & IRON WORKS
19 FREMONT ST. SAN FRANCISCO

SEED BED STOCK
Sweet Orange, Sour Orange, Pomelo and Citrus Trifoliata, also Valencia and Navel Buds. Stock clean, thrifty and first-class in every respect. Write for prices before you buy. Now is a good time to plant, get your order in early.
F. H. DISBROW NURSERIES
Phone Sub. 4x1. Box 1032, PASADENA, CAL.

Citrus Seed Bed Stock
Pomelo and Orange
Fine Stocky Plants
No Frost, No Scale
Acclimated to the San Joaquin valley. Address
C. B. REAS
P. O. Success, Tulare Co., Cal.

ALIAS SUMMONS.
No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

Citrus Seed Bed Stock
Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.
B. C. BENNER, Box 13, San Dimas, Cal.

NURSERY STOCK FREE FROM SCALE
This district is entirely free from scale or smut
WASHINGTON NAVELS DANCY TANGERINES
EUREKA LEMONS SEEDLINGS
WHITE SMYRNA FIGS
C. D. Hubbard San Fernando, Cal.

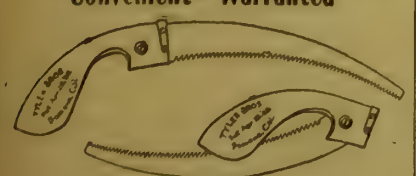
Established Palms a Specialty.
PALM NURSERIES
EDWARD H. RUST
Grower of Palms, Roses, Orange and Lemon Trees, Washingtonia Robusta Palms, Monterey Pines.
Nurseries:—Bank Street, South Pasadena
424 S. Broadway - Los Angeles, Cal.
Phone, Sunset Main 2580

Geo. B. Warner's . . . Est. 188
Orange County Nurseries
SANTA ANA, CALIFORNIA
Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.
Residence, 202 Hermosa St.
Sales Yard, Cor. Main and Sixth Sts.

USE...
California Portland Cement
MADE AT COLTON
Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.
SEND FOR CATALOGUE
California Portland Cement Co.,
401-403 TRUST BLDG.,
LOS ANGELES, CAL.
We have LAND PLASTER for sale

Fruit Trees
All Kinds at Prices That Will Make You Wonder.
The J. W. Armstrong Nursery Co.
POMONA, CAL.

POMONA DEEP WELL PUMP
Long stroke, steady movement, runs smoothly, and is perfectly noiseless.
POMONA MFG. CO., POMONA
or Fairbanks, Morse & Co., Los Angeles

THE POCKET PRUNING SAW
Convenient—Warranted

Try It—If You Don't Like It, Return It.
IT JUST FITS THE HIP POCKET
The teeth of this saw are disposed at right angles to a straight line from the grip of the handle to the point of the blade, thus permitting the same ease of operation its full length. The peg or cant tooth makes it particularly adapted for green wood. It will not clog or gum. Recommended by all who appreciate a first-class pruning saw. **Price $1.00.**
DEALERS WANTED EVERYWHERE.
GEO. R. TYLER Pomona, Cal.

Coast News and Notes

CONTINUED

MISCELLANEOUS.

A contract has been signed by interested parties for a $30,000,000 steel plant to be erected at San Diego.

A State convention to further the El Camino Real project has been called to meet at Santa Barbara April 19 and 20.

Counsel for the State University have begun suit to recover from an Oakland bank $1000 drawn by former Secretary McKowan.

W. E. Mercer, of Ventura, shipped last week to Henry Albers, at Los Angeles, three hundred incubators which he had manufactured for him.

An explosion in the nitro-glycerine room of the Giant Powder Company at Pinole last week, completely wrecked the plant and killed two men.

The State Board of Examiners have purchased $60,000 of Pomona, Los Angeles county, 4 per cent school and park bonds at par and accrued interest.

Orange county is moving in the matter of asking the supervisors to appropriate $1500 to print 300,000 pamphlets to advertise the county at the World's Fair.

The land about the famous Soda Bay health resort in Lake county has been sold to a San Francisco party, who will further improve the property as a health resort.

Settlers of Fernando valley have pledged themselves to a vigorous campaign for water rights. The area represented embraces 14,000 acres, of which 8000 acres are under irrigation.

On the first day of next month a daily mail will run into Millwood from Visalia. The roads are being repaired and put in good condition as a heavy travel is expected during the coming season.

The big dam at the source of Truckee river, which confines the waters of Lake Tahoe, is in danger of giving way. The lake is higher than at any time in its history, and the dam, built thirty years ago, is rotten and dangerous.

The committee of the Native Sons of the Golden West which will have charge of the celebration in connection with the launching of the cruiser California has been advised that the vessel will be sent down the ways at the Union Iron Works, April 28.

On April 22nd and 23rd the eyes of the people of California will be turned toward Modesto, for on those dates the people of the Modesto and Turlock Irrigation districts will celebrate the completion of one of the greatest irrigation systems in the country.

To make the trolley line near Monrovia attractive to tourists and to themselves, the people have sown wild flower seeds. The people of Hollywood will do the same thing when the boulevard between Los Angeles and that beautiful suburban town is completed.

The most severe earthquake shock of recent years visited parts of Washington on Wednesday of last week. Indians are coming in to Tacoma with the report that beds of rivers have been thrown up and great lakes formed on farms which before were valuable agricultural lands.

Kern is one of the most notable counties of the State as regards the extent and excellence of its system of oiled roads. Facts and figures collected by the Department of Highways show that there are now in use in Kern county 100 miles of such roads, and about forty-five miles of oiled streets in cities and towns.

From numerous points comes news of the boring of wells and the installation of pumping plants, wind steam, gasoline or other power, and the move inaugurated is spreading. In Ventura county farmers have been sinking wells for the past four months. It is said enough water has been developed in this county to preclude any loss to agricultural interests through a drouth in future.—Oxnard Courier.

March is looked upon to bring up the rainfall for the season. It seems from statistics compiled for the past twenty-three years on records kept by A. S. White, of Riverside, that that section has had a total annual average of 9.84 inches, and March is the banner month of the year for precipitation of moisture, the average for the 23 years being 1.98 inches. April drops off quite materially, having only .67 of an inch for the average downpour during that period.

AGRICULTURE.

Many acres will be set out to strawberries in the Watsonville district this spring.

Coachella valley expects to put in 1040 acres to canteloupes this season and to realize $125,000 therefrom.

A firm of tomato canners at Dixon, Solano county, has recently been visited by an agent of the Russian army, who proposes to purchase 44,000 cases for use by the Russian army.

The farmers of Fremont, in Solano county are setting out a greater number of tomato plants this year than usual. Fremont is widely known for the superiority of its tomatoes.

The governor of Washington is endeavoring to secure a law in the next legislature creating a railroad commission to fix the tariff on agricultural products shipped from points within the State.

Directors of the Farmers' Co-operative Shipping Assocation, representing 4000 farmers in Missouri, Kansas, Nebraska and Oklahoma, have declared an eight per cent dividend for the past year.

Theodore Kearney has resigned all connection with the Raisin Growers' Assocation at Fresno. The reason assigned is ill health and too much friction in the committee of which he was a member.

The presidents of all the local banks at Fresno have united in a message to the Journal of Commerce, New York, denying the statement that they intend forcing the crop on the market. The statement had gone forth that the banks intended to force the raisin crop on the market to liquidate the debts of the growers, which is denied.

The raisin growers of Fresno district have agreed to submit their differences to a committee of seven members of the raisin growers' association. "It's work," says the Democrat. "will be very similar to that of the Committee of Fifteen, two years ago, and it will be remembered that that committee was in session for several weeks. The Committee of Seven will doubtless hold daily sessions, and it will probably invite the views of growers and also obtain the opinion of local attorneys on the legal question involved, the liability of the growers in a stock company, the trust voting feature and all that."

HORTICULTURE.

The local paper at Calistoga says that during the past year there was paid to growers of prunes around Calistoga and Barro station over $89,000 for fresh and cured fruit.

The Limoneria lemon ranch at Santa Paula is building an addition of 100 feet to its packing house. The company expects to ship 200 cars of lemons this season, being an increase of 60 cars over last.

The orchardists of El Cajon valley, also the vineyardists, are contributing to a fund to be used in inducing rain. Charles Wright, a native of the section, guarantees to produce rain for $500. The result is awaited with interest.

The Horticultural Commission of Tulare county is urging the destruction of all citrus trees shipped into the county affected with red spider. The board of supervisors is to be asked to pass a resolution against the admission of all infected trees.

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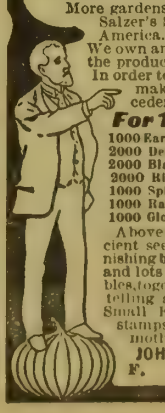
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C. H. SESSIONS, ASSOCIATE EDITOR

Value of Milk Tests.

Prof. Major, of the University of California, laid special stress upon the value of dairy tests, in his address before the Jersey Breeders' Association, last week, at Buena Park. The point which most appealed to the members, as well as outsiders, was the statement that the offspring of a tested cow is worth much more than that of an unofficially tested one.

The cow whose test shows merit will advertise herself and make her offspring as much more valuable as her test exceeds the ordinary test of the ordinary cow.

If a dairyman has a fine cow it is due both himself and the cow to have a test of that animal's performances made, and to publish the result to the world as a matter of news and also to awaken interest in the subject of testing cows in general.

The Jersey breeders of Southern California are slow to take hold of this subject, not because it requires expenditure of money to procure official tests, but because it is considerable trouble to arrange for the work and from the further fact that tests often do not come up to expectations. We agree with Prof. Major that what is worth doing is worth doing well, and the man who owns a cow, if she be of any blooded stock, should have pride enough in that cow, and interest enough in the course of improved dairy conditions to have his cow tested, even of he does no more than to record the test in his local papers.

There appears to be an effort on the part of the owners of other breeds to push this matter of testing to a successful issue and thereby advertise their breed. The Holstein and Guernsey breeders are especially earnest in their purpose to establish a reputation for their respective classes. They are pushing into California and the time is not far distant when they will be a factor in the dairy interest. If the Jersey breeders expect to continue as they are at present at the head of the dairy class in the State, they must do something to hold their prominence. In no way can they better retain their hold than by providing a system of premium tests.

Breeders of fine stock, as a rule, do not advertise as they should. They are content to let their business go on without calling public attention to it or in any way designating its value to the country. Every breeder of fine stock is a benefit to his home, his county and his State. He attracts attention to his stock and bring in people to buy it. He usually spends money quite liberally and thus puts it in circulation. He advances the general character of stock in his county, thus adding to its wealth. His State is benefited as well as his county, for it is a well settled rule that the better stock a State possesses the richer it is and the higher are the values of its lands. If you have a good thing, tell of it. If you own good stock, advertise the fact. The more advertisement you give it, the better will your interests be conserved.

CURING SORES ON SWINE.

Several years ago I lost some pigs and many of the live ones had a swelling or lump on their jaws, writes S. O. Mason in The Farmer. On some, the upper jaw was affected, or the nose; on others, the under jaw. In time the sore would eat a hole through to the surface, after which they would soon die. I was advised to use hydrogen peroxide, which I did. I found upon examination that the lumps or swellings were caused by a sore that was filled with a yellowish matter which was hard and looked like a lump of moistened sulphur or golden seal. I would open the sore with a sharp knife, usually inside the mouth between the gums and lips, and remove the matter and then apply the peroxide with a small syringe. This application was given once a day for three or four days. After this treatment began I lost no more pigs from this cause. This trouble frequently appears, but I have never failed to cure sores when treated in this way.

I am confident this difficulty is caused by a microbe that may be transmitted from one animal to another, where the microbes get into the blood through scratches or cuts. I have found hydrogen peroxide almost a cure-all for flesh-wounds on hogs. A two-pound flask—about a pint—costs about 75 cents and lasts a long time. It seems to cleanse the cuts, sores or wounds of all foreign or poisonous matter and stimulates a healthy growth.

FEEDING THE WORK HORSE.

Many horses are injured by kindness which leads to overfeeding, says John George, of Illinois in Farm and Home. This is particularly true in summer time. The horse gets home hot and dry, is given all the feed he can eat, then led to the trough where he fills up on water and goes to work again. In this condition he is not in shape to eat much nor can he digest it. What he needs is first a small drink of cool water, and then rest, followed in half an hour with a feed of oats and corn.

A horse that drinks a large amount of water soon after eating, washes the food out of his stomach into the intestines, where it is not digested, but ferments, gives off much gas and causes more or less disturbance and distress. When Saturday night comes, the feed should be cut down half, both in summer and winter, and feed a bran mash with a few carrots in winter and run in pasture in summer. This cools out the system and the horse is in better shape for another week of hard work.

Hay should not be fed at noon. It is bulky, not easily digested, particularly when the horse is at work. Many successful farmers feed half the hay ration at night, and divide the remainder equally between morning and noon. If the horse is at hard work be particular to choose old hay and sound clean grain.

The Swine Breeders' Association of Southern California expects to hold its annual meeting next year at the time the Jersey Breeders' Association meets. Pomona has put in a cordial invitation for the association to meet in that city.

R. M. Marquis, of Montana, sheared 360 sheep in 14 hours and 46 minutes. He holds the world's record.

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The Large vs. the Small Dairy Cow

Considerable discussion has been stirred up all over the country by a bulletin issued by the Wisconsin Experiment Station relating in detail the results of a 5-years' record of the Station's herd. This herd contains some large cows and some small cows, and it appears that in amount and in economy of yield, the large cow had the best of it; from which fact, the learned professor in charge seems to infer that all large cows are better than small cows. The breeders of Holsteins have endeavored to make capital of this bulletin, and to show the farming public that it proves that the Holsteins are the whole thing when it comes to making cheap butter and lots of it, and that the Jerseys are a sickly, measly lot of yellow runts that no sensible man should care to own.

To the thinking man, however, who is familiar with cows, all this reasoning is so plainly sophistical and narrow minded as to have little effect. The Wisconsin experiment proved that of the particular bunch of cows in question, the large ones were the best. Other experiment stations have found and have published the news that of their particular herds, the small cows were the best. To draw any reliable conclusions, we would need carefully conducted experiments all over the country, of such broad scope that the results would fairly represent the average excellence of all large cows, as contrasted with the average excellence of all small cows. This is a task of such magnitude that it may never be acomplished, but until it is attempted, it is entirely unsafe to draw conclusions from isolated experiments in single herds.

To breeders of Jerseys, this question of the Large vs. Small Cow resolves itself into a comparison of the Jersey with the Holstein cow. The Jersey is the typical small cow, and the Holstein the typical large cow. The Wisconsin test was by no means intended to be a comparison between the pure-bred Holstein and the pure-bred Jersey; the comparison was between large and small cows, the herd containing both pure-bloods of several breeds and grades of several kinds. Comparing the work of the full-bloods, the Jersey made much better showing in this experiment, and there can be no doubt that all of us believe that the Jersey as a breed produces the largest annual amount of butter-fat, and at the least cost.

We must admit that the Holsteins on the average, give more milk, but the milk of the smaller Jersey is so much richer that the average yield exceeds that of the Holstein, as far as I can judge from any records that I have seen of public competitive tests between the two grades. When we consider the larger bulk of the Holstein cow, requiring more food for maintenance, we can readily understand how it is that the Jersey requires less feed in proportion, to produce a given amount of fat; thus making doubly strong her claim to be the most economical producer of butter-fat. As butter-fat is what nearly every dairyman is after, those of us who understand the capabilities of the typical, pure-bred Jersey, have pinned our faith to her, and thus as far as a comparison with other breeds is concerned, have announced ourselves as advocates of the small, as compared with the large dairy cow.

Having chosen the Jersey breed, we are again confronted with the question as to whether the large type of Jersey is preferable to the small. We find certain families characterized by large, capacious frames, and by every sign of hearty vigor. On the other hand we find other strains, small in size, fine in bone and structure, reminding one of the thoroughbred race horse, and characterized by every indication of high-strung, nervous temperament. The question as to which type is the most profitable confronts us all, and I believe is one of the greatest importance. Leaving entirely out of question individuals that are stunted or small because of degeneracy, it seems to me that theoretically the small cow has the best of it. I think that we may say that Island Jerseys best illustrate the small type. They undoubtedly average smaller than the American Jerseys, and are undoubtedly the most highly specialized product of the breeders' art to be found in the world, barring no kind of animal and no breed, except perhaps the Arabian horse. The Island breeders have for years been working to develop a type which will produce butter-fat from the feed at hand with the greatest economy. By the process of selection, they have eliminated all size, all bone and muscle not necessary for the purpose in view, and at the same time have developed vitality and an exceedingly intense milking temperment; and I challenge the world to produce a type of animal better adapted to the purpose for which it has been molded by mankind, than the Island Jersey cow.

While medium in size, they are not small in capacity to consume large quantities of rough feed and produce a large flow of very rich milk. I contend that the size of a cow should not be measured by pounds, but by her capacity, which should be made the unit of measurement. Theoretically, the type of cow in which the capacity has been kept large, while the size and hence the quantity of food required for maintenance have been reduced, should be and is, under ideal circumstances, the most profitable cow.

However, theories do not always work out for the best in practice; and, while I believe that under ideal conditions the big-little, finely built and highly organized Island cow in her highest development is the most economical machine for producing butter-fat, I do not by any means intend to advocate this type for the practical dairyman, or for Southern California breeders, and for these reasons: First, none of us are in a position to supply the ideal conditions under which this type is brought to its highest development. In the Island of Jersey the land is split up into very small holdings, and no man owns more than a few cows; these cows are cared for and petted by the women, and are almost made members of the family circle. The conditions that exist with us are very different. Large herds are the rule in dairy farming, and we are studying to breed cows suitable for such dairy herds. We cannot give the attention to each individual that the Jersey Island man does, and for this reason, and because we must depend so largely on hired help, I do not think that we are fitted to handle properly animals of such high-strung, nervous temperaments. In breeding a type for practical use, we must adapt ourselves to circumstances, and will be wise if we follow the middle course and endeavor to retain a fair size in our cows, while endeavoring within reasonable limits to intensify their milking habits and to eliminate the too common fault of putting fat on the back instead of into the pail. There is another reason which makes it advisable to keep our Jerseys to good size, which, as it appeals to our pocketbooks, is a very powerful reason. The average dairyman is impressed greatly by size; size in cows and size in yield, without considering at all the question of net profit. A good big cow undoubtedly produces more than a good small cow, although, perhaps with less profit, but it is the big yield that goes with the dairyman and the big calf that sells, and it is inexpedient for us to ignore the need of a market for our bull calves. In evolving a fairly large type of Jersey with fairly intense milking temperament and the habit of putting fat into the pail, it seems to me that we can with great profit use on our larger and coarser cows, bulls of the Island type. I am quite confident that good results will follow from this cause, and believe that it should be given a thorough trial by our breeders. It cannot be considered a radical experiment, as the best of Island blood has been imported for this purpose for years past. With benefits that none can deny, I am putting this theory into practice in my small herd and hope that the resulting type will prove a step nearer the ideal which I have formulated, viz.: a cow, medium to large in size, extra large in capacity to consume and digest rough feed, with the milking temperament so highly developed that the food consumed, over and above what is necessary to keep the cow on her feet and perform her functions in hearty style, will go into the bucket. Southern California is well equipped with Island bulls of the best strains; we have some good cows to build on, and a few excellent bulls of the best American families. With these materials we ought to produce good results; and if we make a careful study of our problems, keep in close touch with each other and exchange ideas, we will have ourselves to blame if we do not build up a type of Jerseys especially adapted to our needs, and of such merit as performers, that they will command recognition from the dairy public.

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With sponge and brush—neglect me not.
Of soft, dry bed—deprive me not.
Tired or hot—leave me not.
Sick or cold—chill me not.
With bit and reins—O, jerk me not.
When you are angry—strike me not.

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General Agriculture

GOOD PROFIT IN SHIPPING GRAPES.

No fruit for shipping has paid better in the past than table grapes. The favorite varieties are the Tokays, Emperors, Cornichons and Thompson's Seedless. The latter has grown very much into favor as a shipper in the past few years, largely due to its massive clusters, its delicate flavor and the fact that it can be eaten without caring for the seeds, which is a feature with many consumers, who adhere to the old superstition that grape seeds cause appendicitis, and eat seedy grapes with a great deal of apprehension for fear that they should swallow a seed. Of the varieties mentioned, the Tokay is in the lead, and has returned the greatest profit to the shippers. This is the most attractive of all the shipping grapes when well grown, with its very large, showy berries, big bunches, and bright red color. It is a grape that sells on its looks, and it has the added advantage of being an excellent shipper, firm of flesh and keeping well in transit. The country around Sacramento is the home of the Tokay, and while there are other parts of the State where it does perhaps equally well, we know of none where it does better. Soil and climate in this location seem especially well adapted to it. The vines here make a very thrifty growth, are always well loaded with fruit which has the deep bright color which is the charm of this grape. Another advantage which this section has in producing this grape over other localities lies in the fact that it is a day nearer the eastern markets. It is these reasons which have given the Sacramento section its pre-eminence as a producer of table grapes, a pre-eminence which, from the new plantings which are going out every year, it is evident she intends to maintain, and which announce plainer than words that there is money in table grapes in the country tributary to Sacramento.—John Isaac.

WHY SPRAYING IS NECESSARY.

The canker worm, the tent caterpillar, leaf rollers and other native leaf-eating insects find instead of an occasional wild cherry tree, wild crab-apple or wild plum, whole acres of improved varieties of these, acres upon acres of raspberry, blackberry, strawberry and grape. Grass-feeding insects find hundreds of thousands of acres of grassy plants more tender and juicy than the natural grasses. Is it any wonder that native insects, before confined to a less number of less fruitful trees, with an occasional year that permitted almost no fruit at all to grow, thus almost exterminating them should under such favorable conditions as are offered by our present system of fruit, vegetable and grain culture, thrive and increase in numbers far beyond what they would under less artificial and less favorable surroundings? We first create an environment unnatural and vastly more favorable than the original for the development of insect enemies of our crops, and bring about the very conditions that in a state of nature these insects prevent, and then wonder why it is that they do the most natural things in the world for them to do—feed and breed. Thus the spraying of plants with insecticides and fungicides becomes imperative to counteract so far as possible the adverse effects of the present conditions.

SAVE ALL FARM MANURE.

Farmers waste a great deal of manure every year. A large amount of rubbish is burned, which if scattered on the land would be worth many dollars. It is not wise to burn anything just to get rid of it. Many men burn a straw stack just to get it out of the way. If the straw had been allowed to rot and had then been hauled to the land, it would be worth many dollars.

There is also a great waste in the manure pile on most farms. It matters not how careful we are, there is sure to be a little waste, but if we will, we can reduce this to a small percentage. There is less waste in hauling out manure as fast as it is made, than in any other way. It should be plowed under as soon as possible. When it is plowed under the land has it, and will keep it. Let the solid manure absorb as much of the liquid as possible, and for this purpose provide plenty of bedding. Then follow the above rule and you have the best of it. Some people object to plowing it under. In some parts of the country it may be better not to plow under.

If our farmers were not so wasteful and saved the by-products of the farm, like the people of the European countries, much more profit could be realized. It would appear, sometimes, from the waste of manure, that many people sell all the feed they raise, so that they will not have to be troubled with the manure pile. The up-to-date farmer puts all products unused back on his land—all the manure and by-products, and then he feeds all that is raised, except in extreme cases. Our main object should be to increase the value of our land. Nothing is gained by cheating the soil.

CLIMATE AND CROP REPORT

Weather Forecaster McAdie gives the following summary of the weather and crop conditions for the week ending Tuesday, the 23rd. Since then two inches of rain have fallen and more is promised.

The temperature was nearly normal during the week, with lower temperature at the close. The weather was generally cloudy or partly cloudy, and rain fell nearly every day in the central and northern sections, with frequent showers in other sections. Rivers and creeks in portions of Northern California again overflowed their banks and considerable damage resulted. Heavy snow fell in the mountain districts.

The broken levees in the Sacramento and San Joaquin districts are being closed, and in some places there is a possibility that fair crops may be raised this season. In the overflowed sections and in the districts where excessive rains have submerged the lands grain is not doing well and it is feared that the yield will fall below early estimates. Sunshine and warm weather will do much to improve conditions. In all other sections grain is reported in excellent condition and making good growth, with indications of a large crop. The rainfall in the southern districts is still below average, but its distribution recently has been most favorable, and the crop prospect is considered better than at any time during the season. The incessant rains in Northern California have caused suspension of farming operations, and the cultivation of orchards and hop fields is being seriously retarded. Grass is making rapid growth in all sections and green feed is abundant.

Orchards and vineyards are in good condition except in the flooded districts. Many varieties of deciduous fruits are in bloom and give indications of a large yield. Pruning practically completed.

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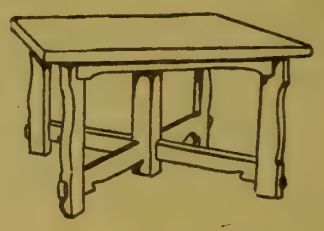

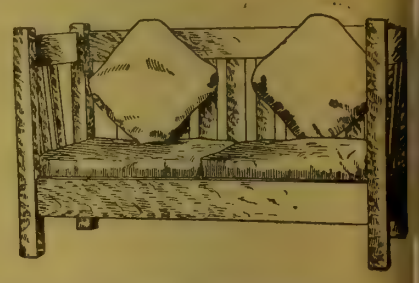

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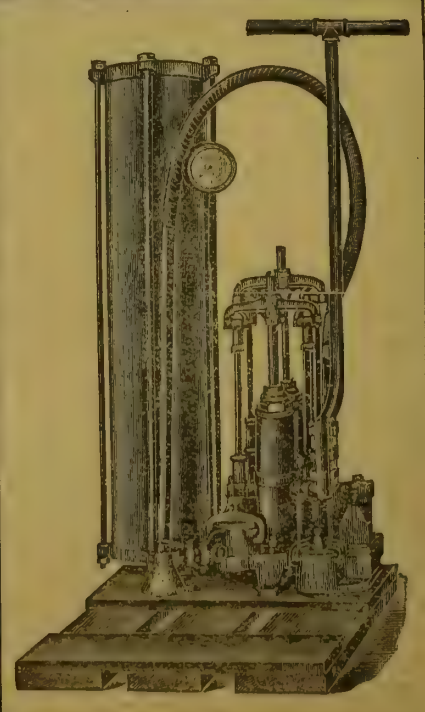

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That you spend as much for labor every year in spraying 15 acres as it costs to buy the best spray pump made. This

Bean Torrent

pump with occasional renewing of the plunger packings will last 20 years When labor is so expensive and the pump comparatively cheap, can you afford to use an old, leaky pump, getting poor results and wasting time? You can do your spraying so much faster and better with a

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It is getting late in the season. Send a postal today asking particulars. Use the Bean Clipper Nozzle.

BEAN SPRAY PUMP CO.
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MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

SOME MORE EXPERIENCES.

This week brings us such a large number of letters asking for advice and help in the poultry yard that to answer them fully will crowd out the long promised article on "Line-breeding." The secretary of the Los Angeles Poultry Association, some time ago, said to me, "Write an article about your failures." "I don't have failures; I won't have them," was my reply. A broad smile illumined his countenance as he answered, "Yes, you do; you have misfortunes as well as the best of us, and if you tell people how you overcome them, you will help and encourage others." This was a new view of the matter and I thought of the old proverb, "Experience teaches" and as I heartily sympathize with those in any difficulty I will ask our readers to excuse my somewhat lengthy answers to those seeking advice.

* * *

Mr. Editor: I am a subscriber to your most valuable paper and am more interested in every number I get. Now I should like to ask you a few questions:

1. Is Coulson's Chick Food good and reliable for raising young chicks?

2. What kind of millet is best to raise for poultry? When to sow or it is enough how to plant and where to sions from isolated gle herds.

...is a large fowl?

To brayer? White eggs? I want to try and raise five or six hundred chicks this year and want your advice as to the best kind or breed to raise.—W. R. G.. Auburn, Placer Co.

1. Coulson's Chick Food is good and reliable; any of Coulson's foods are very good.

2. Millet is good for poultry. You can get the seed at any good seed store in your town or in Sacramento, and at the seed store they will tell you which is the best kind of millet to sow in your locality; also how and when to sow it.

3. The Orpingtons are a good fowl, they are from England, where they were bred by Mr. William Cook, by crossing several other breeds. They weigh less, and are smaller than the Plymouth Rocks; most of them have white or pink legs; they lay a light brown egg and are good layers. The Orpingtons are a new fowl in this country and have not yet got very popular. I would advise you to raise whatever fowl you like the best, and keep only that one kind. It will pay you best. Of course, if you are quite wealthy, you can experiment with different breeds and enjoy the fun. But if you are in it for profit, take one of the well tried breeds and stick to it with all your might and you will make money.

By all means raise thoroughbred fowls; they bring in nearly fifty per cent more than mongrels in the market and you can sell their eggs for setting as well as for commercial purposes and at a premium. Thoroughbreds cost no more than mixed and bring in bigger returns than mixed fowls or mongrels. Above all do not try to hatch two different classes of fowls together, such as Leghorns and Plymouth Rocks. You will have a poor hatch if you do, and worse luck still in the brooder. I know by sad experience. It takes twenty-one days to hatch all hen eggs, yet you will find that if you put eggs from Rocks or any of the other heavy breeds and Leghorn eggs in the same incubator, the Leghorns will be the first hatched, often two days, and either the moisture in the incubator, or the temperature which is hard to control when the incubator is full of chicks, or some thing will ruin your hatch. I have learned this by experimenting with the different breeds and classes. In a mixed hatch the lighter breeds hatch out first and the first hatched are always the strongest, so do not under any circumstances set eggs from different breeds in the same incubator.

* * *

Editor Cultivator: I have just received a paper from Dr. Nottage, Goshen, Mass. He advocates the dry feeding method from self-feeding boxes. What is your idea about that, and in all dry feeding how is one to get in the medicines and bone and blood meals and extras. My! but this plan would be a big labor saving! Thanking you for past favors, E. M. B.

Dr. Nottage's plan of dry feeding was for young stock on free range. He has hoppers or boxes made that will hold about a sack of grain; he fills the hoppers whenever necessary, about twice a week; he has another hopper in which he places beef scrap, and again smaller hoppers containing grit, dry ground bone, shell and charcoal granulated, his chickens run on green grass and clover, eat all the insects they can find and when hungry pay a visit to one of the hoppers for whatever they fancy. They live a healthy, free life and do well. But when he wants them to stay in out of the snow and wet he has to alter his plan; he then shuts his pullets into his pens with a hopper of grain, he carefully measures the grain for one day, and when he has discovered what amount his pullets have eaten in one day, he removes the hopper and he throws that amount of grain, dividing it up into three feeds a day, into the scratching pen, whilst he only leaves the hopper of beef scraps and the grit, charcoal, shell and bone always before them. He follows this plan of feeding in the scratching pen in order to give the fowls exercise during the time they are kept in the yards, which exercise they would not take if they were only shut in the yard with a hopper full of grain; exercise develops the egg-making organs of the fowl and keeps them healthy; it also keeps the hens happy, busy and lessens the monotony of the poultry yard. I have sold off my ranch and moved to Hollywood, but have a few fowls for my own use and I intend trying Dr. Nottage's plan of feeding beef scrap in a hopper. I saw some very good beef scraps this week at Mr. Albers' poultry supply house; he has a very large sale for it. It certainly meets a long felt want, for one of the difficulties here has been the lack of animal food. And here let me remark, cotton seed meal has almost the same protein content and a very similar analysis to animal meal, but although I found it excellent for fattening fowls and ducks, it

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A Practical Poultry Plant

in Southern California

By Captain E. Pryce Mitchell of Santa Barbara

A Practical Book by a Practical Man on success in California Poultry Raising.

$1.25 POSTPAID

Book will be issued within the next week. Order at once and get the latest on poultry raising. Cultivator readers may have the first copies issued by writing at once to this office.

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BEEF SCRAPS

Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.

Farmers and Stockmen

All Use

Prussian Stock Food

We Carry a Full and Complete Line

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ROUP and CHOLERA

Why do so many so call poultry medicines fail? Because they are made to sell at 100 per cent and not to cure. Palmer Poultry Powder sells on its merits. Roup or cholera is no barrier to the poultry raiser now. Before this famous remedy was tested and its value proven the hatchet was used for roup. Now Palmer's Roup Remedies are used and the fowls saved.

PALMER'S POULTRY POWDERS

Trade Mark

You may think your fowls are healthy but do not lay. You buy egg producing food to force egg production. When your fowls are healthy nature fills the egg basket. Don't be deceived by cheap nostrums.

Palmer's Cholera Compound makes and keeps your hens healthy and vigorous and doubles the egg product. To try it is to buy it, to buy it is to make money.

PALMER POULTRY POWDER CO.,

302 E. Third St., Los Angeles, Cal.

50c and $1.00 Per Package

Albers' Black Minorcas

Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.

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GEO. R. ALBERS

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Golden Laced Wyandottes

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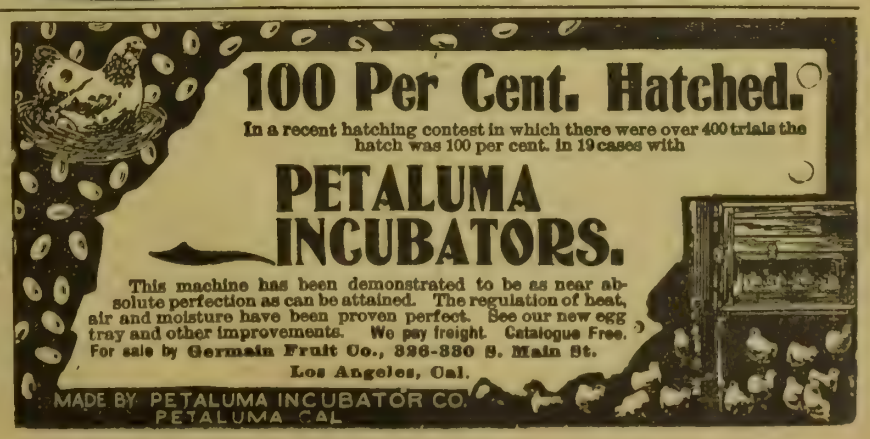
Fifteen Eggs, $1.00

Mrs. Frank Wood, R.F.D.2, Compton, Cal.



100 Per Cent. Hatched.

In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with

PETALUMA INCUBATORS.

This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.

For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.

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EGGS FOR SALE

From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.

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Cockerels Barred Rocks, Black Langshans, Light Brahmas and Partridge Cochins. Over thirty of these choice birds at $2 and $3 each. Eggs, $1.50 per 14. B. B. P. YDS., CARLSBAD, CAL.

BUFF COCHINS

And SILVER GRAY DORKINGS. Won 1st prizes at all California shows. Eggs, $2.00. Males to sell. Sure Hatch Incubators kept in stock for sale. Harry McIntire, 27th & D, San Diego

The West Coast Stock Food Co.

Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.

WEST COAST STOCK FOOD CO.,
PASADENA, CAL.

BUFF ORPINGTONS

My birds won FIRST PEN at State Fair, San Francisco, and Seattle shows. You want stock of this kind. Eggs, $2.00, $3.00 and $5.00 per setting.

Walter Sullivan Agnew, Cal.

THE GOOD FOUR

I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to

EGGS, $1.50 PER SETTING — S. W. MORGAN, SUNNYSIDE, CAL

EGGS FOR HATCHING

From grand laying strains Black Minorca and White Leghorn fowls. Pens headed by prize winners, $1 and $2 for setting of 15. One Plymouth Rock pen headed by bird bred at eastern experiment station from 250-egg strain, $2 per 13 eggs Stock for sale.

J. P. McDonough Geyserville, Cal.

INDIAN RUNNER DUCKS

AND

WHITE PLYMOUTH ROCKS

Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.

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Eggs for Hatching

FROM

PURE BRED WHITE LEGHORNS

$1.00 per 13—$4.00 per 100

JACOB KREGER

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MATURED

Standard Bred

Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
S. C. W. Leghorns (Emer tr ain)

Only Birds That Have

MOULTED

are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

CAPTAIN MITCHELL
SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

19 Ribbons at San Francisco and Los Angeles Shows. Entries 26.

EL ORO POULTRY FARM

FRESNO, CAL.

H. H. HOLLAND - Proprietor

Booking orders for eggs from yards of White and Brown Leghorns, White Buff and Barred Rocks, Blue Andalusians, Light Brahmas, Silver Spangled Hamburgs, Buff Cochin Bantams, Black Minorcas, Pekin Ducks and Bronze Turkeys. Prices, $1.00 to $3.00

did not promote laying, nor did it seem to satisfy the fowls as well as animal food.

I have no doubt that for young stock on good grass range Dr. Nottage's plan would be excellent, and as you remark, it would be a great saving of labor.

* * *

Editor Cultivator:- I am one of the new comers who are drifting into California so fast just now, and am trying to establish a chicken ranch, together with raising figs, grapes, peaches. Was much interested in the dry feeding of Dr. Nottage. His idea appeals to me forcibly. But a plan may be all right in Massachusetts, and yet not feasible in California. Wheat and barley can be bought or raised here, corn and oats are not easily obtained. Rye the hens will not eat, and the prepared food of the manufacturers will cost too much in freight and handling by the time it reaches here to be practicable. I have sown a good piece of alfalfa on purpose for the hens, and they can have free run all the time. They have done well in laying since I bought them, about three months ago.

I was interested in what you said about packing eggs. I have packed a good many in my time, in salt, slacked lime, etc., for a few months, with fairly good results. But have never had any success with liquids, the reason being that the yolk settled to the lower side and spoiled the eggs for selling, if not for use. Would it not be the same in the water glass? If they could be made to stand on the small end and prevented from touching each other would it not be better?—C., Modesto.

About Dr. Nottage's plan see my answer to E. M. B. I think that Kaffir corn would grow well with you and that, with wheat and barley, would make an excellent feed for your hens, fed in hoppers.

You must keep your hens off of your newly sown alfalfa or they will destroy it. It must be well and firmly rooted before they are allowed to run on it.

All eggs packed for keeping should be placed with the little end down, whether packed in liquid or dry stuff. I think you will find that the water glass will be thoroughly satisfactory. The eggs that I tried last year in water glass were perfect, the little end was placed down and layer after layer put into the jar and then the mixture (six parts boiled water and one part water glass) was poured over. The jar was in a room next the kitchen for several weeks and then placed on the ground under the house, where the temperature was cooler. The eggs should be kept in a tolerably cool place, and entirely covered with the liquid. They should be in a glazed jar or wooden keg.

* * *

Editor Cultivator: Thanking you for your letter of a late date, I am sorry to trouble you, but can you give me any information in regard to turkeys? Are they hard to raise? Do they have to be fenced into yards as chickens are? Or is free range best? How many can you keep on an acre? Would it be best to subdivide a twenty acre tract in order to run different bands in each subdivision, or let a whole lot loose in the twenty acres? How many hen turkeys are kept with a gobbler? Can you hatch turkey eggs in an incubator? Are they as fertile as hen's eggs? Do they have to have houses similar to chicken houses? How many birds would it be best to start in with? Where can I get the Bronze turkeys and their eggs? I am afraid I have asked a great many questions of you that will tax your patience, but I have a good chance to get a better position, if I start a turkey ranch, and I want to know a little about it, as a money proposition, before I go into it. Any information will be thankfully received by J. J. W., Santa Barbara.

1. You will find full directions for raising turkeys in a recent number of the Cultivator.

2. They are delicate little things till they get the red on their heads, but if you don't over feed and if you follow the directions, I see no reason for failure. 3. They do not need to be fenced in like chickens. 4. Free range is best. 5. You could keep half a dozen old ones on an acre and raise all their young till they are half grown. 6. It might be well to divide the twenty acres, but you had better wait till

FREE! FREE!

The 1904 Catalogue B

Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address

Must Hatch Incubator Co., PETALUMA CAL.

Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

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BARRED ROCKS
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EGGS $1.50 PER 13 REDUCED RATES ON INCUBATOR LOTS

Located one and one-half miles east of Glendale. My stock is bred for size and egg production only, mostly from Eastern eggs.

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First-Class Incubators and Brooders

The "PACIFIC" is the most sensible Egg Hatching Machine yet invented and does its work perfectly without a nurse or night- watch. Send 4c for my 70-page Catalog No. 2. It tells all about them and has other practical matter on poultry raising, poultry houses, etc,, which makes the book worth a $ to anyone who keeps a dozen fowls.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec- 16, '03.
Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yonrs truly,
Mrs. A. N. Zumwalt.

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Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

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White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

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RANCH: 2½ Miles South of the University Station, on Vermont Ave.
Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena
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AMERICAN WHITE PLYMOUTH ROCK CLUB MEMBER

Winning White Plymouth Rocks

Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.

Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

the turkeys are grown. It depends upon what is growing on the land, and how much green feed they would have. 7. You can keep about ten hen turkeys with one gobbler. 8. Yes. 9. They are usually more fertile. 10. No, a shed open at one side is better than a tight house for turkeys. 11. Better begin with a few, either a trio or not more than five or six. Or, better still, with a few settings of eggs. Then your risks will not be so costly. The largest breeder of Bronze turkeys in this State is Mr. Ed. Hart of Clements, but there are others advertising in the Cultivator from whom you could buy eggs. It is always best to begin with a few and learn the business step by step. I have found the turkey business on a small scale more profitable than any other, and I know there is money in it for any one who can raise them. It depends a good deal upon soil, climate, and the care they receive; also the market facilities. Here in Los Angeles, last Christmas, they sold for thirty cents a pound, and the demand was beyond the supply.

* * *

Editor Cultivator: I have been very much interested in the poultry department of the Cultivator and would like to ask you if I had better buy an incubator? Do you think I would succeed with it? I have always had good success in raising chickens with hens. —Mrs. J. R. B., Covina.

If you have had good success with hens in raising chicks I have but little doubt you would do even better with a good incubator. In fact, I look upon incubators almost as a necessity if you want to raise many chicks. The directions are clearly given of how to operate them, and all you have to do is to follow carefully those directions. By far the harder proposition is how to raise the chicks after they are hatched. For this you must have at least two brooders for every hundred chicks hatched. I had twelve brooders to raise the chicks from two incubators. Don't buy an incubator unless you are prepared to purchase at least two or more brooders.

* * *

Editor Cultivator: Will you please have Mrs. Basley answer the following as soon as possible through the Cultivator? Should eggs be cooled after the seventeenth day, and turned after the eighteenth day?—A. R., San Jose.

I always turn and cool my eggs in the incubator up to and on the nineteenth day. My reason for this is I try to copy the old hen as much as possible, and I have observed that those old hens that leave the nest a good deal toward the last hatch out the strongest chicks. I suppose it is that they get more oxygen than the others, or it may be that the cooling and turning is a sort of exercise that strengthens the chick. I know the results are good.

* * *

A postal card from Burbank, I believe, addressed to the poultry department of this paper, has been mislaid. Will the writer send me another addressed to Mrs. A. Basley, Hollywood, and it shall have my prompt attention.

CONTROL OF EVAPORATION FROM INCUBATOR EGGS.

(U. S. Department of Agriculture.)

The success of artificial incubation depends to a large extent upon maintaining the proper moisture conditions in the egg chamber. In the past operators have been compelled to rely almost entirely upon experience as to whether proper conditions were being maintained.

Some reliable means of controlling moisture conditions which may be safely employed by inexperienced as well as experienced operators is especially important in view of the rapid extension of artificial incubation. The West Virginia Experiment Station, taking as a basis for such a method the normal loss of the weight of eggs during incubation under brooding hens, made a series of observations which showed that the eggs which hatched under hens lost on an average 6.5 per cent of their weight in nineteen days, while the infertile eggs and those which did not hatch lost from 1 to 2 per cent less. The normal loss of 100 eggs was found to be about 9 ounces in six days, 20 ounces in 12 days, and 31 ounces in 18 days. By weighing the eggs in the tray at the beginning of incubation and at intervals thereafter the progress of evaporation may be observed, and the ventilation and moisture supply so regulated as to make the loss of weight conform to these normal figures.

THE ANCONAS.

One of the coming fowls among the egg producers are the Anconas. They are an Italian product and are new, in fact very rare, in this country. The writer visited a flock at Colfax, Ia., recently where a test was being made in their laying. Ten of these hens had averaged seven eggs every day since the first of April.

The Anconas are a small fowl, but not so small as the Leghorn. Their color is black and mottled with white, but not so much white as the Houdans or Silver Faced Wyandottes. They are a trim, beautifully shaped fowl and are always actice and lively. For the small poultry raiser who has limited space and wants fowls for their eggs, the Anconas have many good points. —Farmers' Tribune.

A NEST BOX FOR POULTRY.

Have a box eighteen inches long, fourteen inches high and twelve inches deep. On the front side leave a strip five inches wide at the bottom, removing the remaining nine inches of the front to give the hens access to the nest. Be sure to leave the top board on. For nest material fine straw is the best.

SHUT OFF THE DRAFTS.

"It is a bad policy to have cracks in the poultry house," says an old poultryman. "A draft on the fowls while roosting will cause many complaints. A good water-proof cement for stopping up cracks and leaks in the poultry house is to mix two quarts of freshly slackened lime with one pint of cement. Moisten it with skim-milk to the consistency of mortar and apply it liberally in every crack and crevice. It will soon harden and prove very serviceable.

GREEN BONE MEAL.

A practical poultryman in the northern part of this State feeds his chickens three times a week on green bone meal, and this is what he says of the results. "Every poultryman should own a green bone mill. With it be can grind green bone and meat to the consistency of sausage, making a superb, strengthening food for chicks and an unsurpassed egg feed."

Irregular feeding is apt to cause a derangement of the digestive organs.

The poultryman who is continually changing breeds never succeeds in the business.

Winter is the season to feed green cut bone to poultry. It is good egg making material.

Do not adopt every bill of fare you hear of. If yours is producing good results, stick to it.

Remember, broilers, roasters and eggs make a paying combination.

WANTED—Situation on poultry ranch by an experienced man. Address
California Cultivator,
203 New High, Los Angeles

Eggs for Hatching
Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
LOUIS S. FLETCHER, ANAHEIM. CAL.

THE NATURAL HEN INCUBATORS AND BROODERS
Points of Merit That Are Causing Such Large Sales of These Machines All Over the U. S.:

A continual circulation of pure, fresh, warmed, moist air in every part. Chicks can regulate their own wants as to heat and air by having a range of from 60 to 100 degrees to go into. Chicks will not crowd, as they have warm material to place their backs against similar to the old mother hen. No chilling or overheating. Lamp fumes or gasses entirely separated from chicks and fresh air. Brooder can be heated up in fifteen minutes in any season. The most economical on oil of anything in the shape of a brooder. One filling of lamp—3 quarts of oil—will last from five to seven days in mild weather. The incubator is guaranteed to hatch chicks as strong as the hen can. The only brooder that has and is capable of raising 100 per cent, not only once, but time after time. Our catalogue and book combined will explain more of the merits that have made these machines famous. Send for it. Mailed on receipt of 10 cents in stamps. It has helped thousands to success that have previously failed with other makes.

F. S. LOW & CO.
PETALUMA CALIFORNIA

Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
F. E. Seaman, Upland, Cal

Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
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YOU DON'T NEED TO
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In order to have successful hatches when using the
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CHAMBERLAIN'S PERFECT CHICK FEED.

World's Chick Feed of To-day. The only original **dry Chick Feed**—all others are worthless imitations. **Chamberlain's Perfect Mash Egg Feed** supplies your hens in winter with grass and meat, and is the greatest egg food known. Feed your hens **Chamberlain's Perfect Hen Feed** night and morning, **Perfect Mash Feed** at noon and you will have eggs winter and summer. Chick Feed for sale at $3.25 per 100 lbs.; Hen Feed $2.75 per 100 lbs.; Mash Egg Feed $2.20 per 2-bushel sack; Evergreen Shredded Clover (green as grass) $3.25 per 100 lbs.

GERMAIN SEED CO.,
PACIFIC COAST AGENTS. LOS ANGELES, CALA.
SPECIAL PRICES ON TON LOTS.

"HERE I AM KING."

A little cot, poor, but well kept—
An open fire—hearth lately swept,
The kettle singing;
The table spread with common ware,
And Mollie flitting here and there
The supper bringing.

In Mollie's mien I read contempt
For tricks and shams; does not attempt
Vain pomp or show,
To please the throng; doth not invade
Fashion's domain to masquerade
As others do.

No skeletons, no duns, no debts;
For silks and jewels, no regrets;
No murmuring;
Happy and content behind the urn
She pours the tea, on my return—
Here I am king.
—New York Tribune.

Miss Mike's New Brother.

"Well, Agnes," said grandmother to Miss Mike, "your nose is out of joint now."

Miss Mike felt that member gravely and wiggled it.

"No," she said.

"Yes, it's out of joint," repeated grandmother, who was holding a telegram in her hand. She laughed and seemed pleased by something. Everything in the last few days had been mysterious to Miss Mike, and she had given up trying to understand the ways of grownups.

In the first place grandmother had come and had taken her away from home. She had been allowed to do just as she pleased. Occasionally she had heard grandmother say, "I wonder how Agnes will take it." This was to herself, and there was no explanation of what it meant.

Everything was puzzling, and when grandmother said that her nose was out of joint that was only another mystery and not worth bothering about. Miss Mike looked at grandmother a moment and then took her dolls out in the back yard to chase the chickens.

Later in the afternoon father came, and Miss Mike was exceedingly glad to see him. Despite the fact that she did not believe grandmother knew anything about the nose, she had been feeling it at frequent intervals ever since the mysterious remark had been made.

"Frank," she cried, running to him, "Is my nose out of joint?"

"Have you told her?" asked father of grandmother, and the latter shook her head.

"I should say your nose isn't out of joint, Mike," said father.

"She said it was," asserted Miss Mike, pointing to grandmother.

"Don't you believe it. There isn't anybody can put Mike's nose out of joint. Mike and dadee stick together—hey, Mike?"

"Yes," said the baby, as he took her in his arms.

When father took Mike away they had a short ride on the train and another on the street cars and then they were home.

"Where's Helen?" asked Miss Mike, as soon as they were in the house. "I want to see Helen."

"After a while, Mike," said father.

"I want to see her now, Helen," she shouted.

"Don't make such a noise, please, Mike," begged father.

"Is that the other one?" asked someone, entering the room. The little girl looked up to see a strange woman who wore a white cap and striped clothes.

"Yes," said father, "this is Miss Mike."

"I don't like her," declared Miss Mike, pointing to the woman, who laughed and left the room. Father also went out and Miss Mike was alone. A neighboring woman came in and coaxed the baby to her.

"How do you like your little brother, Agnes?" she asked.

Miss Mike opened her eyes widely. "Haven't you seen the new baby?" she was asked. "Haven't you seen the little brother?"

There was a moment while Miss Mike stared solemnly at the smiling face of the woman. Slowly her underlip dropped down and her eyes became wet.

"New baby?" she asked, wonderingly.

'A pretty new baby," said the woman.

"G'way!" shouted Miss Mike, suddenly. "I don't like you. G'way!"

"Why, Mike," exclaimed father, entering the room. "What kind of talk is that?"

"G'way!" she screamed, stamping her feet. Father tried to pick her up, but she ran from him and threw herself in the pillows of a couch. Father bent over her, but she sobbed and kicked and struggled.

"I'm afraid she doesn't like it," said the woman serenely. "They're often that way."

"You're not going back on dadee, are you, Mike?" asked father.

"G'way!" screamed Mike.

"Come and see Helen?" asked father, but Miss Mike only struggled the more. The woman suggested that she be left alone for a while, and father agreed, sadly. At the end of a half hour he found that with Miss Mike in her condition he needed comforting as much as she. He came back in the room to find the little girl curled about a cushion in a dark corner, hidden by the couch. It required some hunting to find her. Her face was wet with tears and her hair was flying at loose ends.

She did not struggle as he picked her up, only sobbed. "What's the trouble, Mike?" asked father gently. "Don't you like the brother? Sure, you're going to like him. Let's go upstairs and see him."

Miss Mike was sobbing on his shoulders, but he construed her silence as consent and started. He noticed that her hands tightened in their clutch on his coat as he went up. He stopped a moment at the door.

"Now, you won't holler, will you, Mike?" he asked.

Miss Mike made no reply, but tried to bury her face in his coat. He opened the door and went in. The little girl did not look up.

"Is that Agnes, Frank?" asked mother.

"Here's Helen," said father to Miss Mike, but she refused to take her face from his shoulder.

"Come here, Agnes," said mother, but there was no sound from the girl except that of a long drawn breath.

"What's the trouble, Mike, dear?" asked mother, and the only reply was another long drawn breath.

"I'm afraid Mike's jealous," said father.

"Oh, no," exclaimed mother.

"Look," said father, carrying her over to a crib. "See here, Mike."

The little girl refused to look. Father coaxed and coaxed. "Just look," he insisted. "Why you wanted to borrow Mrs. Nelson's new baby. Here's one you can keep."

Miss Mike opened her eyes slowly and took one long look at the crib. Then she raised her right hand and before father knew what she was meditating she smote the new baby across the face and buried her head in father's coat again. He did not say anything to her and her mother did not see it.

"She'll come around all right after awhile," he said, and then carried Miss Mike out of the room. The little girl said nothing. She seemed to have settled down to morose calmness. Father had to leave her alone downstairs for a few minutes. When he looked for her again she was gone. Presently one of the neighboring women entered the house with her.

"She came over to me with all her dolls," explained the neighbor.

Within the next hour Miss Mike was returned by three different women. She did not cry or struggle when brought back. After the third failure she had supper and then retired to a corner with Supo and the other dolls and preserved a moody and defiant silence. Father found her there when bedtime came. He gathered her up in his arms and sat down in the easy chair, close to the table with a light.

He had become a wise father by this time and said nothing. He merely held her and smoothed her hair. Presently, looking down at her, he caught a glint of her eyes, hurriedly averted from his. Slowly and cautiously they were turned toward his face again and Miss Mike looked at him. The corners of her mouth dropped just a little and then she asked piteously:

"My nose ain't out of joint, is it, dadee?"

"I should say not," cried father, as he tightened his arms around her.—Chicago Tribune.

THE USEFUL LEMON.

One of the best all-round household doctors, and by far the cheapest, is an ordinary sour lemon, which can be bought for a few cents. If you have a troublesome corn, give it a hot bath and cut away as much as possible of the corn, rub well with a slice of lemon and bind on the corn the lemon slice. Repeat for three nights and you will never be without a lemon.

If a bee or other insect stings you, put a few drops of lemon juice on the spot and you will be quickly relieved.

If you have dark hair and it seems to be falling out, rub the scalp with a slice of lemon. It will stop that trouble promptly.

If you have a bad headache, rub slices of lemon along your temples; you will find the pain much easier to bear, and not long in disappearing.

Squeeze the juice of a lemon into a glass of water every morning and drink with very little sugar. It will keep the stomach in good order and keep away dyspepsia.

Squeeze lemon juice into an equal quantity of glycerine and rub on chapped hands. Put on loose gloves, and in the morning there will be a decided improvement, after thoroughly washing them in warm water.

Last, but not least, a good cup of tea, without sugar, but with two slices of lemon and chipped ice—what is better on a hot summer day.

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A cheap, effectual and permanent method of propping trees
Cheaper than driving staples in the limb, and no possible damage to tree.
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A man who journeys east or west
To look for business, health or rest,
And travels o'er the Santa Fe,
Supremely blessed his lot will be;
For hours will pass like minutes few,
Revealing much that's old and new—
Rocks, ruins, plains, old inland seas
Can all be seen; but, more than these,
One gets the best of all to eat.
THE SANTA FE IS HARD TO BEAT.
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RECIPES

Eat Little, but Have That Little Good

Little Plum Cakes.—One cup of sugar and half a cup of butter beaten to a smooth cream; add three well beaten eggs, a teaspoon of vanilla extract, four cups of sifted flour, one cup of currants, half a teaspoonful of baking soda dissolved in a little water, and milk enough to make a stiff batter; drop this batter in drops on well buttered tins and bake in a quick oven.

* * *

Orange Float.—Take one quart of water, the juice and pulp of two lemons, one coffee-cupful of sugar. When boiling hot, add four tablespoons of cornstarch. Let it boil fifteen minutes, stirring all the time. When cold, pour it over four or five oranges that have been sliced into a glass dish and over the top spread the beaten whites of three eggs, sweetened and flavored with vanilla. A nice dessert.

* * *

Orange Roley Poley.—Make a light dough the same as for apple dumplings, roll it out into a long, narrow sheet, about quarter of an inch thick. Spread thickly over it peeled and sliced oranges, sprinkle it plentifully with white sugar, scatter over all a teaspoonful or two of grated orange peel, then roll it up. Fold the edges well together to keep the juices from running out. Boil it in a floured cloth one hour and a half. Serve it with lemon sauce.

* * *

Apple Snow.—Stew some fine-flavored apples tender, sweeten to taste, strain them through a fine wire seive and break into one pint of strained apples the white of an egg; whisk the apples and egg very briskly till quite stiff and it will be as white as snow; eaten with a nice boiled custard it makes a very desirable dessert. More eggs may be used if liked.

* * *

TABLE MANNERS.

Delicacy of manner at table stamps both man and woman, for one can, at a glance, discern whether one has been trained to eat well—to hold the knife and fork properly, to eat without the slightest sound of the lips, to drink quietly, to use the napkin rightly, to make no noise with the table implements, and last, but not least, to eat slowly and masticate the food thoroughly. Chew your food well, but do it silently, and take small mouthfuls. The knife should only be used in cutting the food, never to convey it to the mouth. When you are helped to anything, do not wait until the rest of the company are provided; it is not considered good breeding. Keep your arms close to your sides when at table; it is very impolite to project your elbows over your neighbor's plate. When seating yourself at table, unfold your napkin and lay it across your lap in such a manner that it will not slide off upon the floor; a gentleman should place it across his right knee. When the soup is eaten, wipe the mouth carefully with the napkin, and use it to wipe the hands carefully after meals. Finger bowls are not a general institution, but are very useful nevertheless. When used, they should be half-filled with water and a slice of lemon and placed upon the side table, with the dessert, bread, cheese, etc. They are passed to each person on a parti-colored napkin, with a dessert plate underneath, when the dessert is placed upon the table. The finger tips are slightly dipped into the bowl, the lemon juice is squeezed upon them, and then they are dried softly upon the napkin.

OF INTEREST TO WOMEN.

The new parasols are really beautiful. Nearly all of them are chiffon, trimmed with lovely color combinations.

Coarse-meshed linens come with an edge and fringe in colors. Other of these linens are plainted off into large squares by lines of colors.

Henrietta cloth that is delightful for making house gowns is now selling in double width for 50 cents a yard. All colors are shown.

A pretty black silk waist shown in one of the shops has a deep round bertha of the silk draping the shoulders and this bertha is trimmed with deep black silk fringe.

One of the prettiest hatpins has as a head a single transparent green pebble, polished and set in prongs of gold. The odd shape of the pebble and its peculiar color make this pin very attractive.

The newest belts for use with silk waists are the tinsel braid or silver ones. They are at least four inches broad and when fastened in front give a painted girdle effect in the back.

One of the pretty fabrics for making waists and children's dresses is wool batiste. This goods can now be had at the sales for 29 cents a yard in all the pretty dainty colors and light shades.

My fingers troubled me for years by cracking. This winter I have suffered almost none at all from this cause. I keep a little Indian meal convenient and after taking hands from water and drying them, put the ends of fingers in the meal, rubbing it in. Then before going to bed I use a very little vaseline in the same way. This is more in the way of a preventive than a cure, and has worked well for me.—Penna.

Domestic happiness is like unto a tender plant—it must be kept well watered with the dew of kindness; it must be planted where the sunshine of love will fall directly upon it, and where the storms of jealousy and discontent shall never come near it, lest it wither and die, and God pity the man and women out of whose lives it has gone.

BY ERNEST BRAUNTON, GLENDALE, CAL.

SCARLET LARKSPUR.

In July last the Cultivator offered to send to subscribers sending a self-addressed and stamped envelope a free package of seeds of the native scarlet larkspur. Considerably over one hundred requests were received and seeds sent, but they still continue to arrive, but yesterday one came from Selma. We are sorry to report that no more seed is on hand, though in season we could have procured more. It may not have dawned on some of the readers of this department that when a desirable thing is advertised in the Cultivator you must "come early and avoid the rush," and that even if you do this it is often too late.

* * *

UMBRELLA-TREE SEED.

J. S. P., Selma.—Plant Texas Umbrella tree seeds just as you gather them, in any kind of soil, either out-of-doors or in boxes, and you can hardly fail to make them grow—in some parts of the United States the "volunteer" crop becomes a nuisance. Best plant seeds one-half to one inch deep and keep fairly well watered. If trees are not set out where they are to grow, they should be taken up and replanted every year, while dormant. In this way they can be safely kept in stock for several years, and each time they are moved will improve them for their last planting.

* * *

MILLIPEDES.

E. M. B., Redlands, wishes to know what to do with "wire-worms" in her garden; but from the description they are evidently not "wire-worms." The following was published in this department two or three years ago and we cannot improve on it at present: "There seems to be no way of getting rid of them except by trapping, as anything applied to the soil of sufficient strength to kill the millipedes will also kill plants. Lay pieces of board on the ground (wide ones are preferable), step on each one to make sure they are firm, and turn them up once each day and kill all millipedes found underneath. Repeat until all are gone."

This query also comes into Prof. Cook's field and perhaps he may be able to give a better remedy.

* * *

A "DESERT" GARDEN.

J. E. G., Pomona—Material for an Arizona, or "desert" garden should consist of: Cactus, century plants, aloes, hen and chickens (coyledons and sempervirems), Gasterias, Fourcroyas, Stonecrops (Aedums), Stapelias, Mesembryanthemums (Ice-plants, or sometimes called "moss"), Candlewood (Fouquiera) and all such plants known as succulents or of a fleshy nature.

Do not scatter the different sorts; put all of a kind in a bed, whether one or a dozen different kinds of plants. If you scatter them all over all parts of your "desert" will look alike and prove equally attractive to all visitors. One should be able to find something new every few steps so that all the garden must be visited to see all the different plants. In this way, no matter at which end you begin, the garden grows more attractive as you progress.

* * *

TRACHYCARPUS VS. CHAMAEROPS.

Mr. L., San Gabriel: Trachycarpus excelsus is usually known in the nursery trade as Chamaerops excelsa. Some botanists claim there are four species of Trachycarpus but the generally accepted classification contains but two. These are T. Martianus from the Himalayas—trunk smooth with age; and T. excelsus from China, Japan and Upper Burma—trunk in age always covered with old leaf sheaths and blackish filaments. The latter is the hardier species. Chamaerops has but one representative in the trade—C. humilis, a dwarf fan palm and the only palm native to Europe.

The difference between the two genera are strictly botanical and the nursery trade is excusable for including both under one name. Nurserymen and gardeners, to be successful in general, are not required to be botanical and the whole State contains but few of these classes interested in the science of botany.

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Roses?

As the season is drawing to a close, early planting is strongly urged. We are exclusive growers of roses, and handle only such varieties as prosper best in this climate, GUARANTEEING OUR STOCK TO COME TRUE TO NAME. For March we offer large, field-grown dormant plants at the following

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A San Francisco man wrote it in the Limited "Log Book." The Harvey system dining car service on the Santa Fe leads the world.

Carney's Great Co-Operative Club $1

Send me the names of five friends or neighbors whom you believe will be interested in a journal standing for the farmer's best interests, and I will send you these five great periodicals, each of which stands at the head of its class.

Farmer's Voice and National Rural Weekly $ .60
For forty years the most earnest advocate of all things which tend to make life on the farm more pleasurable and profitable.

Wayside Tales 1.00
America's Great Short Story Magazine, 96 pages in regular magazine size of clean stories every month on fine book paper.

The American Poultry Journal .50
The oldest and best poultry paper in the world.

The Household Realm .50
For 18 years the only woman's paper owned, edited and published exclusively by women.

Vick's Family Magazine .50
The leading floral magazine of America

Regular Price $3.10 FOR ONLY $1 and five names as above

For $1.25 I will send all of above and WESTERN EMPIRE one year. Write today. Save this.

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Nobby Sack Suits

The new loose-cut sacks, designed for men who want to keep a little ahead of the procession, are either very swell or the reverse—depends on how they're tailored.
Ours will bear the most critical inspection of men who have the custom-tailor habit—the quality of the cloths, the character of the cut, the careful, painstaking tailoring are above reproach.

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The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART IV.

This is the fourth part of our story of the description of some of the world's largest poultry farms.

In the last issue we told you about John McDonald's 800-acre Poultry and Dairy Farm. Mr. McDonald is this year raising a good many chicks; thousands of them; all being fed on Coulson's Chick Food, for Mr. McDonald buys Coulson's Food by the carload and the railroad switches the car off at McDonald's place. Mr. McDonald also has a large power mill (run by steam) for grinding feeds, etc., but Mr. McDonald finds it more economical to buy Coulson's Poultry foods all ready mixed, because Coulson's foods contain about one-fifth animal foods and also a number of other materials furnishing everything complete to promote the growth of the chicks and make the greatest egg producers. In the second part of our story we showed pictures of Wm. Bassett feeding chicks a few days old on Coulson's Chick Food. Mr. Bassett told us the other day that when those chicks got to be six weeks old he picked out the roosters and sold them for $3.75 per dozen. Mind you, only six weeks old. Mr. Bassett ordered 3 more tons of Coulson's Chick Food, making about 6 tons of Coulson's Chick Food that he will use for this year's hatch.

Now we will start in on part four of our story, and tell you about A. De Rezendes' place. It is about four miles from Homales to Rezendes ranch and very rough roads, uphill and down and when you get on top of the hills you can see the Pacific Ocean in the distance and occasionally you can hear a low rumbling noise, like distant thunder, which is the roar of the waves breaking upon the beach. We arrived at Rezendes' place about 2 o'clock in the afternoon and found Mr. A. De Rezendes at home.

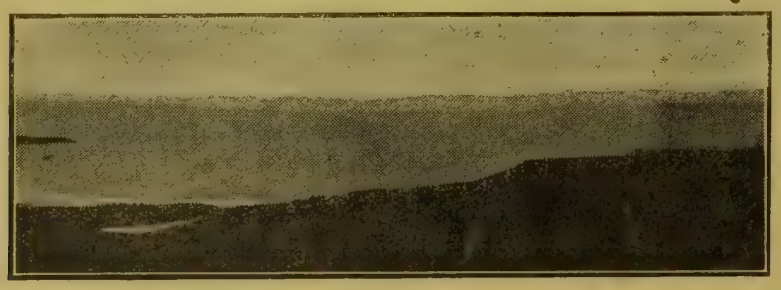
Now, this place is a novelty for a chicken ranch, for it is situated on a high place overlooking the beautiful Pacific ocean. In fact, some of the colonies of laying hens can go to the edge of the hill and look over the bluff and down into the water hundreds of feet below.

Going to the top of one of the highest hills (which took us about one-half hour to climb) we were rewarded with one of the most beautiful sights of nature and one to be long remembered. There in front of us was the beautiful Pacific Ocean; water as far as the eye could see, going way off into the distance until it met with the sky. We could see in the distance what looked like small specks, but which were really ocean vessels and steamers. No doubt some of them had on a small number of sacks of Coulson's poultry foods for there are many tons of Coulson's food shipped by steamer to different places along the coast. Looking to the left as far as one could see was Tomales Bay, which is separated from the ocean only by a long, narrow strip of land which stuck up out of the water like a long chain of mountains.

Looking down below us about 2000 feet was that summer resort known as Dillon's Beach. There were about three dozen summer houses there, but from where we stood they looked like a poultry ranch with a lot of little chicken houses on it.

Dillon's Beach is situated right at the mouth of Tomales Bay and the big white-cap waves come rolling in from the ocean and dash up against the rocks and make a roar like thunder. No sooner would one big wave get in than you would see another one coming about a block behind it. These waves came in one straight line and stretched clear across the channel and seemed to travel about as fast as a train. It was a sight that was very fascinating and one of nature's wonders. In the back of us were the beautiful green hills and valleys and on Rezendes' ranch were the different fields, containing colonies of hens (about 500 to each field). There were four fields of layig hens, 2100 in number. Then there was another field containing between 500 and 600 roosters, which were soon to be taken to market. Then there was another field containing 15 brooder houses for young chicks up to 6 or 7 weeks old, containing about 6000 chicks being raised on Coulson's Chick Food and then there were other yards where they were taken to and the young pullets kept in some yards and the roosters in others until they were sold.

Now, Mr. Rezendes has on this place all together, large and small nearly 10,000 chickens, and they are all fed Coulson's food, for Mr. Re-



Rezendes' 800-acre Poultry Farm near Dillon's Beach, overlooking the Pacific Ocean.

Looking down on one of the fields on A. De Rezendes' poultry ranch near Dillon's Beach, overlooking the Pacific Ocean.

An 800-acre dairy and poultry ranch combined. Nearly 10,000 chickens of all ages on this place, all being fed on Coulson's Poultry Foods.

The little houses shown in this picture are all brooder houses for little chicks. There are 15 brooder houses n one group containing from 400 to 500 chicks in each house, all being fed on Coulson's Chick Food. There are 2100 laying hens just over the hill and there is another field to the right containing 600 half grown roosters.

Mr. Rezendes purchases Coulson's Food by the carload.

A. De Rezendes.

Tomales, Marin Co., February 10, 1904.

A. R. Coulson Co.,

Gentlemen:—Your balanced ration gg Food for laying hens is giving splendid satisfaction.

I have been raising poultry for seven years and always had about the same number of hens. Other years my hens did not lay much over 40 dozen eggs a day, but this year, since I have been feeding Coulson's Egg Food they have increased to nearly 100 dozen a day from the same number of hens.

I am well satisfied with the feed and I will purchase another carload when this is gone. Yours truly,

A. DE REZENDES.

In regard to Coulson's Chick Food I will say that I would not attempt to raise chicks without Coulson's Chi k Food, for I find that I can raise at least 25 per cent more chicks on Coulson's Chick Feed than I can on any other kind of feed.

I raise about 10,000 chicks a year and feed them on Coulson's Chick Food until they are about 2 months old, then I sell off the roosters and feed the pullets on Coulson's Egg Food. A. DE REZENDES.

On the coast of the Pacific Ocean.

Colony of young hens on De Rezendes' place. These hens can look right down into the Pacific Ocean.

These hens are fed on Coulson's Balanced Ration for Mr. De Rezendes buys Coulson's Foods by the carload.

Mr. Rezendes now gets over 90 dozen eggs a day by feeding Coulson's Egg Food, while he used to get only 0 dozen eggs a day by feeding other feeds.

This picture was taken on A. De Rezendes' place, showing part view of brooders houses. There are 15 brooder houses all in a bunch containing between 6000 and 8000 little chicks being raised on Coulson's Chick Food Mr. Rezendes purchases Coulson's Food by the carload.

zendes buys Coulson's prepared feed by the carload.

He took us to the feed house and here we saw several hundred sacks of Coulson's Egg Food and Coulson's Chick Food, for he had just got in a carload only a few days before.

Mr. Rezendes has the reputation of having the best success and being able to raise more chicks to maturity than anyone else in that section of the country. Mr. Rezendes raises pullets and sells them to the other big poultry farms. All the little chicks are fed on Coulson's Chick Food exclusively. The Chick Food is fed dry for the first 4 or 5 days, then after that the Chick Food is moistened a little with milk.

Mr. Rezendes says that he can raise at least 25 per cent more chicks by feeding them Coulson's Chick Food than he could by feeding any other kind of feed.

The largest and most successful poultry raisers raise their chicks on Coulson's Chick Food. If you are going to raise any little chicks be sure you feed them on Coulson's Chick Food. Ask for it at the feed stores or send in order to

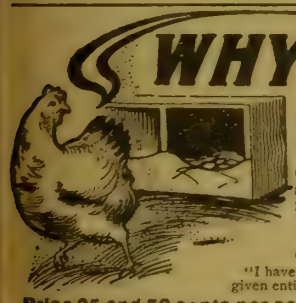
A. R. COULSON CO.,
Petaluma, Cal.

Send for sample and prices.

(To be continued.)

Colony of young hens on A. De Rezendes' ranch. These hens were raised on Coulson's Chick Food and are now fed on Coulson's Egg Food. Mr. Rezendes has, counting large and small, about 10,000 chickens on the place and they are all fed on Coulson's prepared foods, for Mr. Rezendes buys Coulson's food by the carload.

A colony of young pullets on De Rezendes' place, 3 months old, raised on Coulson's Chick Food. Mr. Rezendes has the reputation of being able to raise more chicks to maturity than any one else in that big chicken country. Mr. Rezendes attributes his success to good care and management and COULSON'S CHICK FOOD.



WHY SITTING HENS LEAVE THE NESTS

In nearly all cases it is because they are so pestered with lice. Of course the hen does not know that the eggs may have cost you $5 a setting—she leaves just the same. **Prussian Lice Powder** dusted freely on the nest and eggs once each ten days does the business. Does not injure the eggs, and the little chicks will be free from lice when they come out. Should you like the liquid better, don't forget our **Prussian Lice Killer.**

"I have used Prussian Lice Killer for chickens and also for horses, and same has given entire satisfaction.—RIMOND LENTZ, Jericho, Wis.

Price 25 and 50 cents per can. Remember also our famous **Prussian Poultry Food.** If your dealer does not keep any of these, write us. We will supply you and send you our **68 page book free.**

PRUSSIAN STOCK FOOD & REMEDY COMPANY, St. Paul, Minn.

Germain Seed Co., Pacific Coast Agents, Los Angeles

ALIAS SUMMONS.

No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk.

I.T. MARTIN Furniture and Carpet House
531-3-5 S. SPRING ST.

The place to buy good Furniture, Carpets, Mattings and Stoves Cheap. 3 x 7 Window Shades 38c.

ALL GOODS GUARANTEED AS REPRESENTED

CUTTING TREES BY ELECTRICITY.

It is reported, says Richard Guenther, United States Consul-General at Frankfort, in the German press that successful experiments have made in various forests of France in cutting trees by means of electricity. A platinum wire is heated to a white heat by an electric current and used like a saw. In this manner the tree is felled much easier and quicker than in the old way; no sawdust is produced, and the slight carbonization caused by the hot wire acts as a preservative of the wood. The new method is said to require only one-eighth of the time consumed by the old sawing process.

PLOWING 25 ACRES A DAY.

A man living in Okalahoma, says Prairie Farmer, is doing his spring plowing with a thrashing machine engine and two disk gang plows. The scheme was begun as an experiment and has proved a great success. At each round of the field the machine plows eight furrows, doing the work of 4 men and 116 horses. In this way 25 acres of wheat stubble are turned under every day at an average cost of about 50 cents an acre.

Los Angeles Markets.

Los Angeles, Mar. 24, 1904.

The local market conditions are reported to be of the very best on most commodities. The rains of the last few days have prevented the easy marketing on some articles, but local dealers expect large receipts when the roads get in better hauling condition.

The minds of the commission men are now at ease regarding the outlook for supplies although some goods are reported to be of an inferior quality, which will necessitate quicker marketing.

Butter.

Butter remains firm at last week's quotation. The demand is good and the quality of the best.

B. of T. Cream', 2-lb roll		50
Valley creamery, fancy	50	
Coast Creamery		47½
Cooking, per lb		22

Cheese.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	16	
Northern	14	15
Swiss	19	
Imported do	28	

Eggs.

The price of eggs is steadily advancing. It is thought that present high prices will prevail until after Easter. Producers have been packing during this cold weather.

Fresh ranch	19	20
Store, case count	18½	19

Poultry.

All varieties of poultry are reported to be scarcer in the local market than ever before, there being only about one-fourth enough to supply the demand. Prices firm at last weeks quotations, as follows:

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

There is no change in the live stock quotations. It is reported that stock is in good condition as grazing has never been better. Prices remain firm.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Fancy stocks are scarce and command high prices. Demand is good.

River, per cwt		1 75
Oregon, do		1 85
Local Sweets, white		3 00
Early Rose seed	2 25	
Pinkeye, do		1 60
Nevada Pearls, do		1 75

Vegetables; Mixed.

All varieties are plentiful except onions, which are nearly out of market. The remaining stocks bring $3.50 per cwt. Unfavorable weather and road conditions of late have prevented the hauling, but dealers are expecting a goodly supply as conditions grow better.

Onions, yellow per cwt		3 50
Nevada, fancy do		3 00
Beets, per 100 lbs		1 25
Cabbages, do		1 25
Green peas	02	05
Lettuce, per sack		40
Tomatoes, 25-lb crate		1 25
Celery	25	30
Hubbard squash, per ton		15 00
Carrots, per sack		85
Chiles, string		75
Rhubarb	1 50	1 75
Cauliflower, per doz		35
Raisins, per box		3 00
Raisins, loose	07	08½

CITRUS FRUITS; FRESH

Oranges, lemons and apples are moving fairly well with no change in market quotations.

Fancy, 126s, per box	2 00	
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 50	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs.	1 00	1 50
Strawberries	12	20
Loquats		05

Fruits; Dried.

Dried fruit unchanged. Demand only fair. Prices range as follows:

Apples, evaporated	06	09
Apricots	08	10
Peaches	06	08
Prunes	03	06
Pears		12

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½

Hay and Grain.

The local dealers are being supplied with hay galore. Producers are unloading the remaining reserve stock owing to fine condition of the new crop. Farmers should take advantage of the present high prices, as it is thought that there will be a very low price on the new crop. It is reported that there is a great deal of volunteer hay growing in different localities.

Grain is holding its own with fairly good movement.

Alfalfa		13 50
Tame oat		13 00
Barley hay	12 00	14 00
Wheat hay		13 00
Wheat	1 35	1 45
Barley	1 12½	1 15
Oats	1 25	1 35
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, March 23.

Dairy.

Receipts of butter have been quite liberal this week and a firm market maintained. Humboldt and northern counties are beginning to send in quantities of fresh butter, which will have the effect to make an easy market.

BUTTER—Per lb:		
Creamery, extras	23	@23½
Creamery, good to fancy	21	@22
Dairy, extra	20	@21
Dairy, choice	18	@19
Store	Nominal	
California storage	Nominal	
Eastern Creamery	Nominal	
CHEESE—Per lb:		
Cal. Creamery, mild new, extra	12	
Cal. Creamery, mild new, choice	10	@11
Young America	11	@12½
Eastern, New York Cream, Cheddars and flats, new	15	16

Eggs and Poultry.

The market for Eggs was somewhat unsettled, both bearish and bullish elements being strongly in evidence. As a result prices were somewhat irregular, but the quoted rates were deemed conservative

EGGS—Per doz:
Ranch, selected large .....20 @21
Ranch, good to choice .....19 @19½
Store .....17½@18½
California storage .....Nominal
Eastern .....Nominal

Arrivals of poultry are light and supplies quickly disposed of at advanced prices.

POULTRY—Old Roosters, per doz., $5.50@6; young Roosters, $8@8.50; Fryers, $6@8; Broilers, large, $5@7; small, $4.50@6; Hens, small, $5.50@6; large, $6.50@7.50; Ducks, per doz., old, $6@7.50; young, $6.50@8.50; Live Turkeys, per lb., 16@18c; Dressed Turkeys, per lb., 19@21c; Geese, per pair, $2@2.25; Goslings, $2@2.25; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.25@2.50.

Fruits and Vegetables.

The late market for oranges has been tame and featureless, bad weather again having a discouraging influence upon the demand and restricting business within local jobbing confines.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 50c@$1.50; fancy, $1.75@2.25.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1@2; standard to choice, 50c@$1.25, according to size; Seedlings, nominal; Lemons, $1@2.75; extra, $3; Grape Fruit, $1.25@2.50; Tangerines, 75c@$1.25; Limes, $6@6.50.

VEGETABLES—Asparagus, extra, per lb, 6@7c; No. 1, per box, $1.50@2; No. 2, 85c@$1.25; Tomatoes, per box or crate, southern, $1@1.50; do, Mexican, $1.25@1.75; Rhubarb, per box, $1@$1.75; Green Peppers, per lb., 10@20c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 12½@17½c; Wax, ——; Green Peas, per lb., bay, 5@7c; do, southern, 3@5c; Egg Plant, per lb, 15@20c; Summer Squash, per box, $2; Cucumbers, hot house, per doz., $1@1.25; Mushrooms, per lb., 12½@25c; Garlic, per lb., 5@7c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash jobbing at ¾@1¾c per lb.

POTATOES—Per ctl.: River Burbanks, 95c@$1.15; Early Rose, $1.50@1.60; River Reds, $1@$1.10; Garnet Chile, $1@1.10; Oregon Burbanks, $1.15@1.35; Sweet Potatoes, $2.75@2.85; New Potatoes, per lb., 3@3½c.

ONIONS—Per ctl: Oregon, $2.25@2.50; Nevada, nominal; Australian, $3.50@3.75; Green Onions, per box, 35@60c.

Hops.

The price for new crop is 25@30c per lb, according to quality.

Beans.

The market for Beans is dull, with a marked absence of inquiry noted in all lines.

BEANS—Prices per ctl.: Large Whites, $2.60@2.75; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.30@3.40; Red, $4.50@5; Pink, $3.20@3.40; Bayo, $2.40@2.55; Blackeyes, $2.05@2.25; Kidneys, $4.75@5.

Live Stock.

No particular change marks prices in this department. The market is firm at quoted rates.

CATTLE—No. 1 Native Steers, 9@9½c; second quality, 8@8½c; thing Steers, 7@7½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6@6½c; thin Cows and Heifers, 4@5½c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4¾@5½c, gross weight; heavy, 4@4½c, gross weight.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs. and over, 5¾@6c; weighing under 130 lbs., 5½@5¾c; weighing 250 to 300 lbs. 5@5½c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $14@17.50; Wheat and Oat, $14@16; Oat, $12.50; Barley, nominal; Clover, nominal; Alfalfa, $12@13.

STRAW—Good to choice, per bale, 60@70c.

OIL CAKE MEAL—In lots of 20 tons, $29.50.

CRACKED CORN—Choice quality, per ton, $29@30.

FEED CORN MEAL—Choice grades, per ton, $29@30.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $26@29.

BRAN—Per ton, $19@20.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 Shipping, per ctl., $1.38¾, choice, $1.41¼; White Milling, good to choice, $1.43¾@1.55.

BARLEY—Choice No. 1 Feed, $1.06¼@1.10; off grades, 1.10@1.11¾; Brewing No. 1, $1.17½@1.21⅝; Chevalier, nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.37½@1.45; small, do nominal; White, $1.37½@1.45; Eastern, $1.32½@1.40.
@1.40.

CRACKED CORN—Choice quality, per ton, $30@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

WOOL.

The first spring shearings are making their appearance in San Francisco. As a rule these early spring shearings are rather indifferent in character, and only appeal to scourers, because the fleeces are taken off before feed is sufficiently abundant to grow good sound wool.

Eastern Markets.

Grain and Produce.

CHICAGO, March 24.—There has been a general disposition to sell wheat during the early days of this week, caused by unseasonable weather in the wheat producing territory. The tendency was emphasized by lower Liverpool cables, although the weakness abroad was due largely to bearish American advices. Commission houses and pit traders were alike eager sellers. Buyers were hard to find. In consequence, the market gradually became weaker.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 90@97; No. 3, 89@96; No. 2 red, 91¼@95¼; No. 2 corn, 50½; No. 2 yellow, 51½; No. 2 oats, 38¾@38¾; No. 3 white, 38¾@41; No. 2 rye, 68; good feeding barley, 38; fair to choice malting, 45@55; No. 1 flax seed, 1.07½; No. 1 northwestern, 1.14; prime timothy seed, 2.85; mess pork, per bbl., 12.87½@13.00; lard, per 100 lbs., 6.77½@6.85; short ribs, sides, (loose) $6.50@6.62½; short clear sides (boxed), $7.25@7.37½.

DAIRY MARKET.

On the Produce Exchange today the butter market was steady; creamery, 14@24; dairy, 13½@21; eggs, steady, 15¼@15½; cheese, easy, 10½@11.

Dried Fruits, Nuts, Etc.

NEW YORK, March 24.—The market for evaporated apples is firm; common are quoted at 4@5¼; prime, 5½@5¾; choice, 6¼@6½, and fancy, 7@7½. Prunes continue weak in tone. There is a more or less steady demand for small lots, and Coast advices show much improvement, but local offerings are full, and there is little demand for export. Prices range from 3¼@6¼. Apricots are meeting with little demand. Choice are quoted at 9½@10; extra choice, 10½@11; fancy, 11@13. Peaches are unchanged; choice are quoted 7¼@7½; extra choice, 7¾@8; fancy, 9¾.

CITRUS MARKETS

Interesting features are lacking in this week's trading in oranges. Auction bidding has been tame, although milder weather has had the effect to stimulate trade some on fancy large oranges. Peddlers have done considerable retail business on smaller sized fruit, which sold at low prices. Small dealers have bought quickly for store purposes, but in small lots, so that the general features of the trade have not been materially changed. In general the market may be sized up at about this situation: At auction, small sizes, like 288s, range highest. The bulk of medium sizes go low, in many instances below quotations. Some arrive in bad order, but iced cars are generally fairly good. Floridas are not wanted unless fancy. Porto Ricos are very ripe, and only fancy fruit is salable. Grape fruit is rather slow of sale, but fancy grades are scarce. Tangerines are little wanted.

Lemons are dull and only peddling orders are received.

AUCTIONS.

NEW YORK, March 17.

Clover, C. C. U., Redlands, $1.65; Redland Beauties, $1.85; Canyon Crest, $1.45.
Gondolier, C. C. U., Rialto, $1.50; Rialto, $1.60.
Summit, C. C. U., Redlands, $1.35; Sunflower, $1.95; Blossom, $1.60, $1.70; Camellia, $1.45; Clover, $1.65.
Mt. Chief, C. C. U., $1.10.
Gold Harvest, Rubidoux Ft. Co., $1.25.
Ocean, Moffat Ft. Co., $2.10;
Fountain, Moffat Ft. Co., Rialto, $1.90; Santa Fe., $1.60.
Signal, $1.60.
Blue Seal, A. C. G., Ex., Azusa, $1.80.
Carmencita, S. T. Ex., Fullerton, $1.55; Standard, $1.50.
Puritan, S. B. Ex., Rialto, $1.85; Tally Ho, $1.75.
Gold Buckle, S. B. Ex., Highlands, $1.90; Lochinvar, $1.65.
National, C. C. U., B. Sta., $2.20.
Sky High, C. C. U., Santa Anita, $2.05.
Sky High, C. C. U., San Marino, $1.70.
Azalia, C. C. U., Fullerton, $1.50.
Lion Head, C. C. U., Redlands, $2.35; Tiger Head, $1.75.
Old Mission, Chapman's, Fullerton, $1.90; Old Mission, $1.80; Golden Eagle, $1.35.
Blue Mtn., Pinkham & McK., $1.85.

GRAPE FRUIT.

Padre (halves) Rubidoux Ft. Co., $1.10.
Gondolier, C. C. U., Rialto, $2.10.
Puritan, S. B. Ex., Rialto, $2.
Blue Seal, A. C. G. Ex., Azusa, $2.80.

TANGERINES.

Blue Seal, A. C. G., Azusa, $4.25.
Puritan (halves) S. B. Ex., Rialto.

BOSTON, March 17.

NAVALS.

Cloister, Rubidoux Ft. Co., $2.
Hub, Boston & Son, $1.85.
Elephant, Rubidoux Ft. Co., $1.70.

BOSTON, March 16.

Aurelia, Spence Ft. Co., $1.95.
Marigold, Riverside Ft. Co., $1.80.
Corona Queen, Spence Ft. Co., $1.70.
Cloister, Rubidoux Ft. Co., $1.80; Elephant, $1.10, $1.60.
Signal, $1.65.
Sunflower, C. C. U., Redlands, $1.70; Redland Beauties, $2.05; Bronco, $1.30; Herald, $1.25.
Sky High (halves), C. C. U., Santa Anita, 85c.
Yosemite, C. C. U., W. Highland, $1.70.
Pointer, A. C. G. Ex., Lateen, $1.80.
Carrier, S. B. Ex., Highlands, $1.80.
Bear, O. K. Ex., Upland, $2; Coyote, $1.75.
S. S., S. S. Ex., Orange, $1.65.

GRAPE FRUIT.

Pine Cone, S. B. Ex., Highland, $2.90.
Bear, O. K. Ex., Upland, $2.75; Quail, $2.60.

TANGERINES.

Bear (halves), O. K. Ex., Upland, $1.
Poppy (Bloods), C. C. U., Redlands, $2.20.

NEW YORK, March 18.

NAVALS.

Old Mission, Chapman's, $2.20.
Old Mission, Fullerton, $1.75; Golden Eagle, $1.40.
Cal. Beauty, Worthley & Strong, $1.85.
Puck, F. H. Speich & Co., $1.45.
Ruth, Rubidoux Ft. Co., $1.65.
La Mesa, Riverside, $2.
Our Pride, Highgrove, $1.60; Eagle, $1.60.
Carrier, S. B. Ex., Highland, $1.80.
Golden Orange, A. H. Ex., Arlington, $2.40.
Red "C", Cov. Ex., Covina, $1.65; White "C", $1.55.
Coyote, O. K. Ex., Ontario, $1.50.
La Mesa (Tangs.) Riv., Riverside, $3.90.
Clover, C. C. U., Redlands, $1.70; Lion Head, $1.90; Tiger Head, $1.55; Camellia, $1.85; Blossom, $1.65.
Topaz, C. C. U., Covina, $1.45.
Rialto, C. C. U., Rialto, $1.95.
Gondolier, C. C. U., Rialto, $1.75.
Gypsy Queen, C. C. U., Riverside, $2.10.
Gondolier (Grape Fruit), C. C. U., Rialto, $2.40.

PHILADELPHIA, March 18.

Stag, A. C. G. Ex., Glendora, $2.10; Pointer, $1.75, $1.75.
Arrowhead, S. B. Ex., Highland, $1.75
Violet, D. M. Ex., Duarte, $1.70; Violet, $1.70.
Pointer, A. C. G., Lateen Spur, $1.55.
La Mesa, Riv., Riverside, $1.90; Red Mountain, $1.65.
Butterfly, Cov. Ex., Covina, $1.50; Butterfly, T. 1, $1.50.
Lion Head, C. C. U., Redlands, $1.80; Tiger Head, $1.45; Sunflower, $2.15; Blossom, $1.80; Clover, $1.80.
Carnation, C. C. U., C. B. Sta., $1.80.
Red Letter, C. C. U., Glendale, $1.50.
Royal, Q. C. Ex., Corona, $1.60; Choice, $1.45.
Violet, D. M. Ex., Duarte, $1.65.

BOSTON, March 18.

Swan, S. B. Ex., Redlands, $1.80; Fuller's, $1.40; Fairy, $1.30.
Squirrel, A. H. Ex., Arlington, $1.70.
Puritan, S. B. Ex., Rialto, $1.70; Tally Ho, $1.65.
Volunteer, S. A. Ex., No. Pomona, $1.55.
Violet, D. M. Ex., Duarte, $1.15.
Independent, J. W. Hall, Highland, $1.85.
La Verne, Corson, Lordsburg, $1.80.
Alta Mesa, Corson, Lordsburg, $1.85.
Signal, $1.75.
Rose, C. C. U., Redlands, $2.20; Rose, $2; Camellia, $1.75; Blossom, $1.60.
Yosemite, C. C. U., Highland, $1.75.
National, C. C. U., Highgrove, $1.85; Capitol, $1.65.
Angel, C. C. U., Colton, $1.60.
Ruth, Rubidoux Ft. Co., $1.65.
Highgrove, A. M. Randall, $1.60.
Alhambra, M. C. Hays, $1.65.
Young America, Pinkham & McK., $1.65.
McOrman, $1.65.
Highland (Grape fruit) C. C. U., Highland, $2.70.
Highland (Tangs., halves), C. C. U., Highland, $1.35.

NEW YORK, March 21.

NAVELS.

Blue Globe, Riv., Riverside, $1.95; La Mesa, $2.10; Blue Mtn., $1.85; Red Mtn., $1.65.
Uncle Sam, Riv., Pachappa, $2.
Our Pride, Riv., Highgrove, $1.70; Eagle, $1.55.
Victoria, Riv., C. B. Sta., $2.05.
Rey, S. T. Ex., Fernando, $1.80; Tunnel, $1.85.
Squirrel, A. H. Ex., Arlington, $1.75.
Golden Orange, A. H. Ex., Arlington, $2.40.
Fuller's, S. B. Ex., Redlands, $1.80; Fairy, $1.60.
Old Mission, Chapman's, Fullerton, $2.35; Golden Eagle, $1.60.
Elephant, Rubidoux Ft. Co., Riverside, $1.70; Ruth, $1.85; Cloister, $2; Carpenter, (Lemons), $2.15.
Gypsy Queen, C. C. U., C. B. Sta., $2.05; Flamingo, C. C. U., Pasadena, $1.60.
Carnation, C. C. U., Riverside, $1.85.
Yosemite, C. C. U., Highland, $1.50.
Lion Head, C. C. U., Redlands, $2; Tiger Head, C. C. U., Redlands, $1.70, 1.75; Clover, $1.75, 1.80; Blossom, $1.65, $1.70; Sunflower, $2.15.
Jewel, S. A. Ex., Pomona, $1.80.
Red "C", Cov. Ex., Covina, $1.70.
Squirrel, A. H. Ex., Prenda, $1.80.
Puck, F. H. Speich, Riv., $1.70.
Orange Prince, Collins Ft. Co., $2.10.
Alta Mesa, Corson, Highland, $1.95.
Young America, Pinkham & McK., $1.85; Silver Bow, $2.
Cal. Beauty, Worthley, Strong, $1.75.
Reggio (lemons), Worthley, Strong, $1.95.
Riv. Ex., Riverside (quarters), $2.70; halves, $4.10.
A. H. Ex., Prenda, $1.85
C. C. U., Redlands (halves), $2.20.
Riv. Ex., Highgrove (halves), $1.95.

PHILADELPHIA, March 21.

Camellia, C. C. U. Redlands, $1.65; Blossom, $1.40; Lion Head, $1.70, $2.10.
Clover (Bloods), $1.65.
Camellia, C. C. U., Redlands, $1.85.
Blossom, C. C. U., Redlands, $1.55.
Infantry, C. C. U., C. B. Sta., $1.45.
Azalia, C. C. U., Fullerton, $1.70.
Bridge Grove, J. L. Mean, Pomona, $1.60.
Highland, H. F. G. A., $1.80.
Iris, D. M. Ex., Duarte, $1; Iris T. 1, $2; Iris (Valencias), $2.
Red Globe, Riv., Riverside, $1.25.
Victoria, Riv., C. B. Sta., $1.65.
Lincoln, Riv., C. B. Sta., $1.60.
Carmencita, S. T. Ex., Fullerton, $1.80.
Standard, S. T. Ex., Fullerton, $1.45.
Jewel, S. A. Ex., Pomona, $1.55, $1.60.
Squirrel, A. H. Ex., Arlington, $1.60.

BOSTON, March 21.

Topo Topo, E. S. Thatcher, $1.80.
Highland, H. F. G. A., $1.80.
Rose, C. C. U., Redlands, $2.10; Atlas, $1.65; Clover, $1.30; Blossom, $1.15.
Yosemite, C. C. U., Highland, $1.65.
Trophy, C. C. U., E. Highland, $1.45.
Cream, C. C. U., Rialto, $1.80; Cream T. 1, $2.20.
Selects, S. A. Ex., No. Pomona, $1.60.
Tiger (Tangs.), S. B. Ex., Colton, $1.25.
Independent, Corson, Highland, $2.10.
Carrier, S. B. Ex., Highland, $1.75.
Swan, S. B. Ex., Redlands, $1.85.
Tiger, S. B. Ex., Colton, $1.85.
Blue Mtn., Riv., Riverside, $1.60. Arcadia, (Seeds), $1.30.
Parrot, S. A. Ex., Pomona, $1.50; Jewel, $1.35.
Squirrel, A. H. Ex., Prenda, $1.60; Palm Tree, $1.40.
Tiger (Grape), S. B. Ex., Colton, $2.30.

NEW YORK, March 22.

Sunflower, C. C. U., Redlands, $1.70; Blossom, $1.65, $1.70, $1.90. $1.65; Herald, $1.30; Atlas, $1.80; Camellia, $1.85; Tiger Head, $1.80; Clover, $1.70, $1.80.
Our Favorite, C. B. Sta., $1.90.
Rialto, C. C. U., Rialto, $1.95, $1.80; Gondolier, $1.70.
Yosemite, C. C. U., Highland, $2.
Old Mission, Chapman's, Fullerton, $2; Golden Eagle, $1.60.
Mt. Harrison, F. Sewell, High., $1.05.
Iris, D. M. Ex., Monrovia, $1.80; Violet, 1.65.
Violet, D. M. Ex., Duarte, $1.35.
La Mesa, Riv., Riverside, $2.05; Red Globe, $1.75.
Echo, S. T. Ex., Pasadena, $1.55.
Pointer, A. C. G. Ex., Glendora, $1.80.
Puritan, S. B. Ex., Rialto, $1.75.
Tally Ho, S. B. Ex., Rialto, $1.65.
Tiger, S. B. Ex., Colton, $1.90.
Butterfly, Cov. Ex., Covina, $1.70.
Echo, T. 1., S. T. Ex., Pasadena, $1.90.
Stella, Riv. Ft. Co., $1.95.
Cloister, Rubidoux Ft. Co., $2.05.
Mt. Harrison, F. Sewell, Highland, $2.25.

GRAPE FRUIT.

Mt. Harrison, F. Sewell, Highland, $2.25.
Echo, S. T. Ex., Pasadena, 2.20.
Tiger, S. B. Ex., Colton, $2.05.
Gondolier, C. C. U., Rialto, $2.40.
Tiger (Tangs.) S. B. Ex., Colton, $2.85.

BOSTON, March 22.

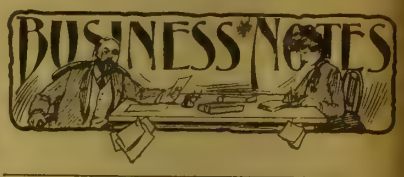
Arrowhead, S. B. Ex., Highland, $1.80.
Tiger, S. B. Ex., Colton, $1.95; Floral, 1.75.
Squirrel, A. H. Ex., Arlington, $1.75; Golden Orange, $2.40.
Southland Beauties, Q. Ex., Corona, $1.30; Leader, $1.75.
Coyote, O. K. Ex., Upland, $1.65.
Jewel, S. A. Ex., Pomona, $1.65.
Cream, C. C. U., Rialto, $1.80.
Yosemite, C. C. U., W. Highland, $1.65.
Clover, C. C. U., Redlands, $1.75; Atlas, $1.25; Herald, $1.05.
Rey, S. T. Ex., Fernando, $1.95; Tunnel, $1.80; Rey T. 1., $2.20; Tunnel, T. 1., $1.80.
Pointer, A. C. G., Glendora, $1.60.

BLOODS.

Squirrel, A. H. Ex., Arlington, $2; halves, 90c.
Southland Beauties (Grape Fruit), Q. Ex., Corona, $2.20.
Leader (lemons), Q. Ex., Corona, $2.
Marigold, Riv. Ft. Co., $1.75.
Sherrod Navels, Olney, $1.85.
Pinkham & McK., $2.15.
Wilson & Gilman, $2.60.

SAN FRANCISCO, March 22.

Sunflower, C. C. U., Redlands, $1.60.
Parrot, S. A. Ex., Pomona, $1.20; Jewel, .85.
Pointer, A. C. G. Ex., 60c; Hunter, 60c.
Pet, S. A. Ex., San Dimas. $1.15; Selects, 75c.
Canon, S. T. Ex., Lamanda, 50c; Extra Choice, 50c; Canon Budded, 40c.



LOTS OF ORANGE TREES SELLING.

R. M. Teague says its a dull year for oranges, at the same time the San Dimas nurseries are sending out about a car load per day. Some days more than that, but always one car. As a car holds at least 1000 balled trees it may be seen that some stock is going into the ground this year, notwithstanding the disastrous prices for fruit. Neither is Mr. Teague's faith in the future of the industry dashed as is evidenced by the fact that he is preparing to bud a quarter of a million young trees this year. Of these 40,000 will be on trifoliata and about the same number on Florida sour stock. The latter is quite a favorite in the northern sections. One of the finest stocks is the Pomelo, which has a magnificent root system.

The trifoliata has proven a favorite this year, and has practically all been cleaned up at the San Dimas nurseries.

As a business getter, Mr. Teague says the Cultivator heads the whole list of advertising mediums.

* * *

The J. W. Armstrong Nursery Co. of Pomona are working up a large business from that place. We noticed there on Tueday that an immense display of eucalyptus was made in their sales yard. Also that a vast quantity also were held in reserve for prospective large buyers. Three car loads of these trees have just been shipped to Hanford, where they will be planted by L. S. Smith of the J. K. Armsby Co. He is putting out a block of 80 acres. Lorbeer Bros, of Pomona are setting 40 acres near La Verne and large shipments have been made to Imperial. The company are already booking orders for next season's delivery.

* * *

The Ontario Nursery of J. S. Armstrong is another busy place. Citrus deciduous and all kinds of ornamentals in stock, but Mr. Armstrong is specializing on rose culture. He shows some of the finest, stockiest roses we have yet seen, which he not only delivers in quantity in Southern California, but has worked up a good mail order business in the East. Next year will find things doing along that line and doubtless show a great business.

If the party whose initials are "O. G. H.," and had a query in the veterinary department of the Cultivator March 4 will give full name and address a letter will be forwarded to said person.

The Alhambra and San Gabriel Farmers' Club will meet at the home of S. F. West, on Thursday evening, March 31st.

Forty inches of rain have fallen in Marin county this season, the largest fall in the history of that county.

REPORT OF RAISIN COMMITTEE.

The raisin growers association of the Fresno district, have been endeavoring for some months to devise some plan to market their surplus stock. Various plans were suggested but none seemed to meet the approval, at least, of a part of the members of the association. After repeated attempts to reach a conclusion and to adopt a plan on which the association could work in harmony, a committee of seven was appointed, upon whose report it was hoped all could co-operate and the association be saved from disintegration. The committee went to work with the determination to harmonize the differences in opinion between members, and to present a plan for the disposition for the unmarketed crop of raisins today in the hands of the growers. The following is the report submitted:

"Your committee, appointed in accordance with the resolution carried at the mass meeting held March 7th, after 3 days' close and painstaking work, and after hearing and investigating all plans and suggestions submitted to them, beg to report as follows:

"They recommend that the general plan of the raisin growers' association as existing be adhered to, with the following alterations and additions:

"1. To increase the number of directors to 25.

"2. The counties of Fresno, Kings and Tulare to be divided into districts, each district to contain approximately acreage or bearing raisin vineyard equal to an average production of 2000 tons of raisins. These districts may be divided up in either geographical limits, by acreage, or by tonnage as may be found most practicable. The county of Madera to form one district, Kern county one district, Southern California one district, and Yolo county and the Sacramento valley one district; there being as many districts as directors to be elected.

trict to be called together and to elect

"3. The raisin growers in each district by ballot one of their number, whose name shall be forwarded to the secretary of the raisin growers' association as the person selected by that district to serve as director for the coming year. As the law will not allow the men selected to be actually elected directors at the district meeting, it will be necessary for the raisin growers in each district who are members of the raisin growers' association to forward to the secretary with the name of the person selected their individual proxies or voting papers, voting for that man and that man only. When all the districts have complied in a similar manner, it will only remain for the secretary of the association to cast the ballot at the annual meeting to insure their election.

"4. The directors, when elected, shall proceed to elect from their own number an executive committee of 5, consisting of president, vice-president, secretary, treasurer, and one other, who shall have the management of the details of the business in their hands, subject to the control of the board of directors (and will, in fact, take the place and duties of the present board of directors). The president, secretary and treasurer shall receive a salary of $2000 per annum, devoting all their time to their office; and should the president, for the time being, be also the chief executive officer, he may receive an additional salary of $3000 per annum. The remaining members of the executive committee to attend as often as necessary at the per diem fee of $10.

"5. The directors will retain the power they now possess of appointing a general manager at their discretion, and fixing his salary; but in the event of such manager being employed and taking charge of the association affairs subject to the control of the directors, none of the executive committee shall be under salary, but shall all be paid at the rate of $10 per diem for the time actually devoted to their duties.

"6. The general board of directors shall meet with the executive committee as often as may be necessary, and shall receive a remuneration of $5 for each meeting or adjourned meeting, in addition to the actual railway fare expended. A meeting should be held at least once a month. The committee make no recommendation as to the erection of packing houses, as it is obvious that it is the privilege of any growers who may be inclined to combine and erect a packing house.

"7. Your committee desire to say that in their opinion no plan or scheme for inducing growers to sign contracts for the delivery of crops to the association should be adopted, or would have the slightest chance of being successful in accomplishing the object desired, which has not for its object the complete control of the raisin output, and that a very small percentage of the crop could be secured by any contract that would be valid and in force with less than 80 per cent of the crop contracted for under control. We believe the adoption of a growers' contract for 3 years (and strongly deprecate a 1-year contract) recently issued by the directors to the growers for the years 1904-5-6 to be advisable, and as good and valid as anything likely to be had.

"8. Your committee have carefully gone into the matter of payments in rents, etc., that have been paid to the packers in recent years, and report that no extravagant or exorbitant sums seem to have been paid under existing circumstances, but it has been proven to our satisfaction that many thousands of dollars could have been saved to the growers in the past had the growers' contracts been all signed and in the hands of the directors by June 1st of each year; and your committee desire to be placed on record that they consider this matter of the signing of growers' contracts early in the spring of more vital consequence than any other single matter connected with the association. With the crop controlled early, no seeder, with its attendant business risks, would be necessary, and with the crop controlled early, terms would be made with the packers instead of the packers making their terms with the association.

"9. The alterations here suggested in the number of directors to be elected and the mode of their election will necessitate some alteration in your by-laws, which can be made and submitted should the recommendation of your committee be adopted.

"10. Your committee recommend that at the coming election of directors, to be held in April, each candidate should pledge himself that if elected he will, without delay, form these raisin districts, have the necessary meetings called, and as soon as the new directors are installed and in power, will retire.

"11. Your committee consider that the matter of judicious advertising of raisins is absolutely necessary, and that the new board of directors should, as early as possible, proceed in that direction.

"Respectfully submitted,
"E. W. RISLEY,
"Chairman.
"W. J. BAKER,
"THOMAS NOCK,
"CHRIS JORGENSEN,
"F. G. DALTON,
"Secretary."

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IRRIGATION NOTES.

There has been some concern as to the depth at which the water might lower in artesian wells and the possibility of necessity for lowering pumps in order to reach water this year. But we are told that some wells indicate a tendency to raise and none are lowering at the present time.

A Good Flow.—Some papers, in speaking of developments in irrigation, often speak of a good supply of water which may be struck in sinking a well as "a good flow." "Flow" in an artesian well indicates the water which flows or pours over the top of the pipe without aid of the pump. Pumped water is not a flow.

The Irrigation Company of Pomona have a magnificent compressed air plant in operation which pumps a large number of wells separated a mile or more apart. The plant cost about $15,000 and is now adding to the former supply of water, so that abundance is assured stockholders in that company.

The Glendora-Azusa Water Company received a large one hundred horse-power electric motor and transformer, via the S. P., this week, which they will install immediately.—San Dimas Eagle.

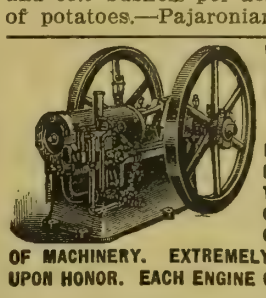
The Tulare Register says that W. A. Sims, near Farmersville, has a one-hundred-twenty foot, ten inch well which yields a fine flow. Also that Mr. Sullivan, near Plano, has a fine well, only 160 feet deep.

George Parker has already put down four artesian wells and is intending to complete a group of eight. Those perfected give off a flow of about 260,000 gallons each daily without the pump. No knowing how much these fine wells will supply under the pump.—Lompoc Record.

Mr. W. M. Ramsey has closed a contract for a new pumping plant for his ranch. He will use two miles of 16-inch pipe, and will install a 50-horse power Otto gasoline engine and pump capable of lifting 100 miners' inches 200 feet.—Santa Paula Chronicle.

Water Flow of the Kaweah.—There has been considerable inquiry recently about the flow of water in the Kaweah river. Measurements made by Dan Switzer prove that it is about the same as it was in 1902 and 1903. Tuesday Mr. Switzer was at McKay Point, above Lemon Cove, and measured the flow, and found that it was 339 cubic feet. In 1902 it was 321 cubic feet on March 27th, and in 1903, on March 3rd, it was 375 cubic feet, which shows a slight variation only for the three years. —Tulare Register.

Much has been written of the irrigation of the arid plains of the far West and of the great fertility produced by such treatment. But experiments have been in progress in States east of the Mississippi river to determine the value of irrigation as a help to the farmer. At the agricultural experiment station at Madison, Wis., experiments have been conducted for several years. The benefit of irrigation on ordinary soils is shown by an increase of 2.5 tons per acre in the production of clover hay, 26.95 bushels per acre in the yield of corn, and 83.9 bushels per acre in the yield of potatoes.—Pajaronian.



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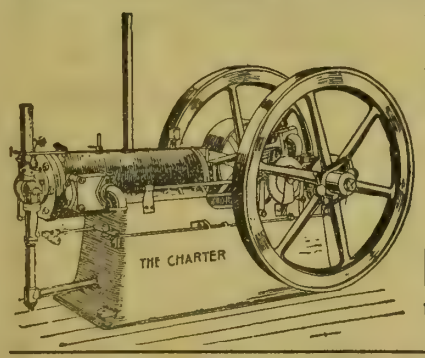

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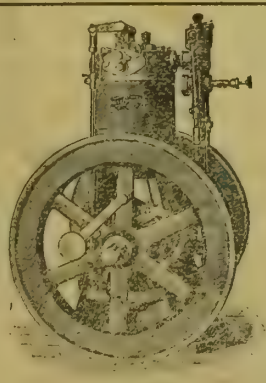

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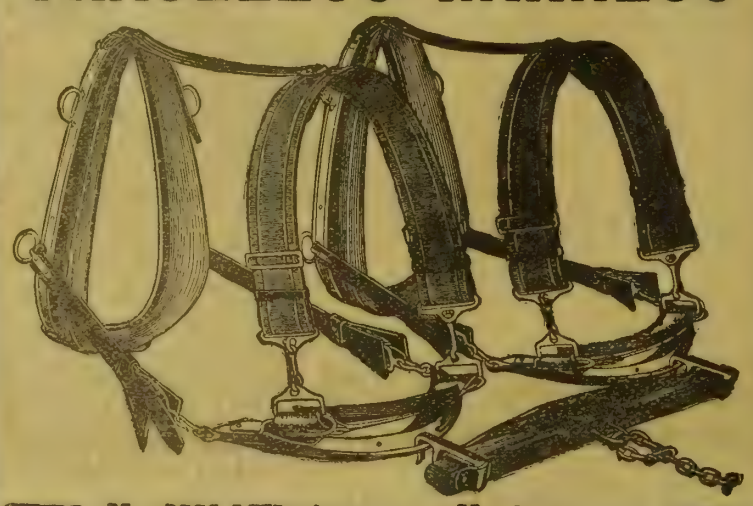

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Sunland, Cal., December 27, 1902.

SIRS: In regard to the Baker Traceless Harness which I purchased from you. I wish to state that when using it on the team among my trees, I know of no improvement which can be made on the outfit unless I cut the legs off the horses. It is impossible to injure the trees or fruit while using it.

Yours well satisfied, T. G. CUSHMAN.

Sebastopol, Cal., March 29, 1902.

DEAR SIRS: Your harness is all you represent it to be in every particular. We judge it a big success for plowing vineyard and orchard.

Yours very truly, C. D. HAMILTON

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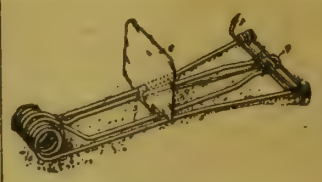

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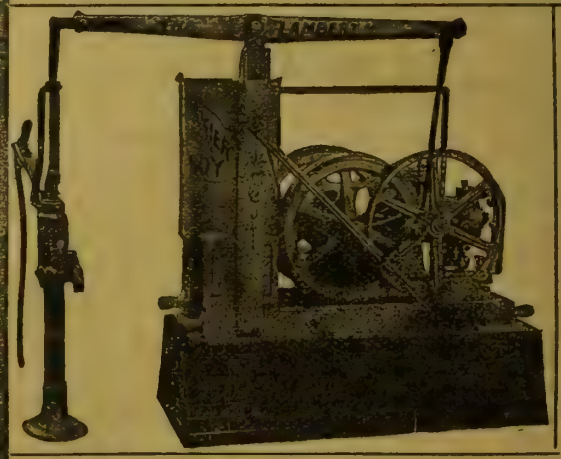

FOR the Farmer; [for] everybody. A power that never fails. Regardless of weather it pumps water, grinds feed, churns butter, saws wood, separates cream and does a hundred other things that you can't afford to waste your valuable time on always reliable. A perfect pumping outfit on the ground. Works when you want it.

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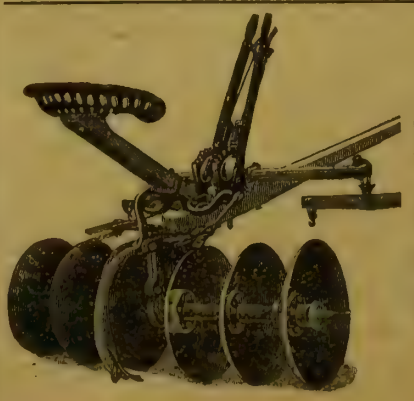

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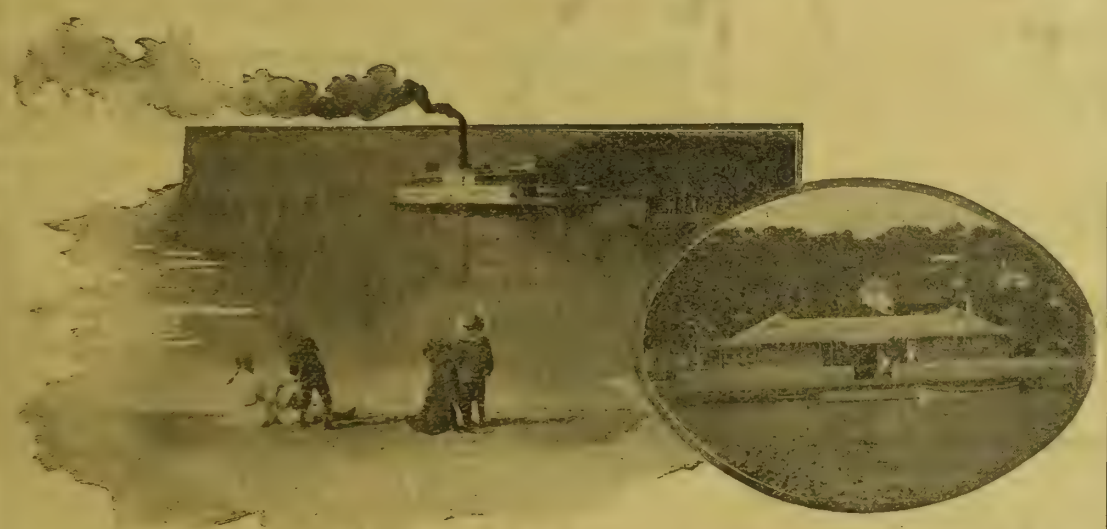
FRESNO AGRICULTURAL WORKS

FRESNO, CALIFORNIA

California Cultivator

LOS ANGELES SAN FRANCISCO

APRIL 1, 1904



Crossing Bay North of San Francisco and Tiburon Ferry.

Alfalfa Scene North of San Francisco.

IN THIS ISSUE:

California Viticultural Club

Building Up the Dairy Herd

Some Jersey Records

Line Breeding of Fowls

Diseased Potato Plants

Pear Blight

Frosted Walnut Trees

CIROULATION EXCEEDING 10,000

TREE SPRAY

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Nut Trees, Shade Trees, Palms, Small Fruits, Roses, etc. Introducer of the Loganberry and Mammoth Blackberry. Originator and introducer of the Linda Strawberry.
If you want unirrigated California grown trees—best for our dry climate—we have them.

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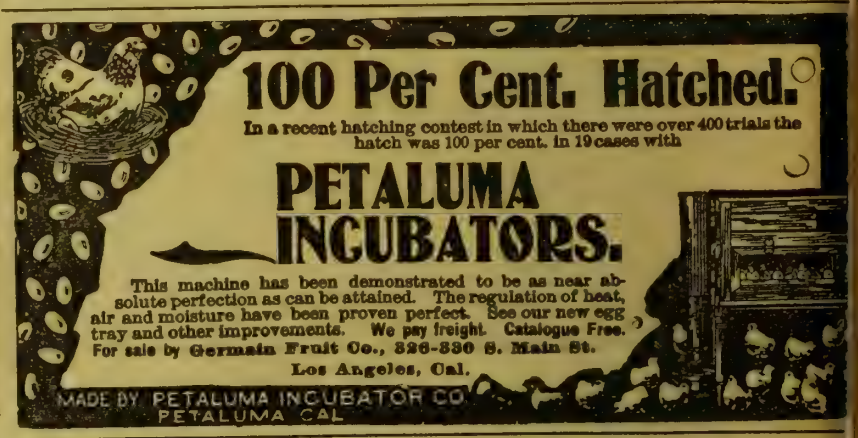
To close out the balance of our **Deciduous Stock** we will sell you Apricots and Peaches for a little more than freight, and fine Orange, Lemon and Grape Fruit trees as cheap as anyone considering the high grade of stock we are offering in the line of **Citrus Stock.** Trees that are true to name, clean and will grow when planted. Three varieties of Navels, Valencias, Lates, Lemons and Grape Fruit, both one and two year old.
Write us today for prices, as there is no better time for planting since the fine rain.

Redlands Nurseries, E. I. Martin, Prop., Redlands, Cal.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This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
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MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL

Citrus Trees in All Varieties

WRITE FOR PRICES. NOW IS THE TIME TO PLANT.

W. G. Hall = = Glendora, Ca

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 14 LOS ANGELES, CAL., FRIDAY, APRIL 1, 1904 Subscription $1 a Year

The Cultivator's New Press and Foiding Machine . . .

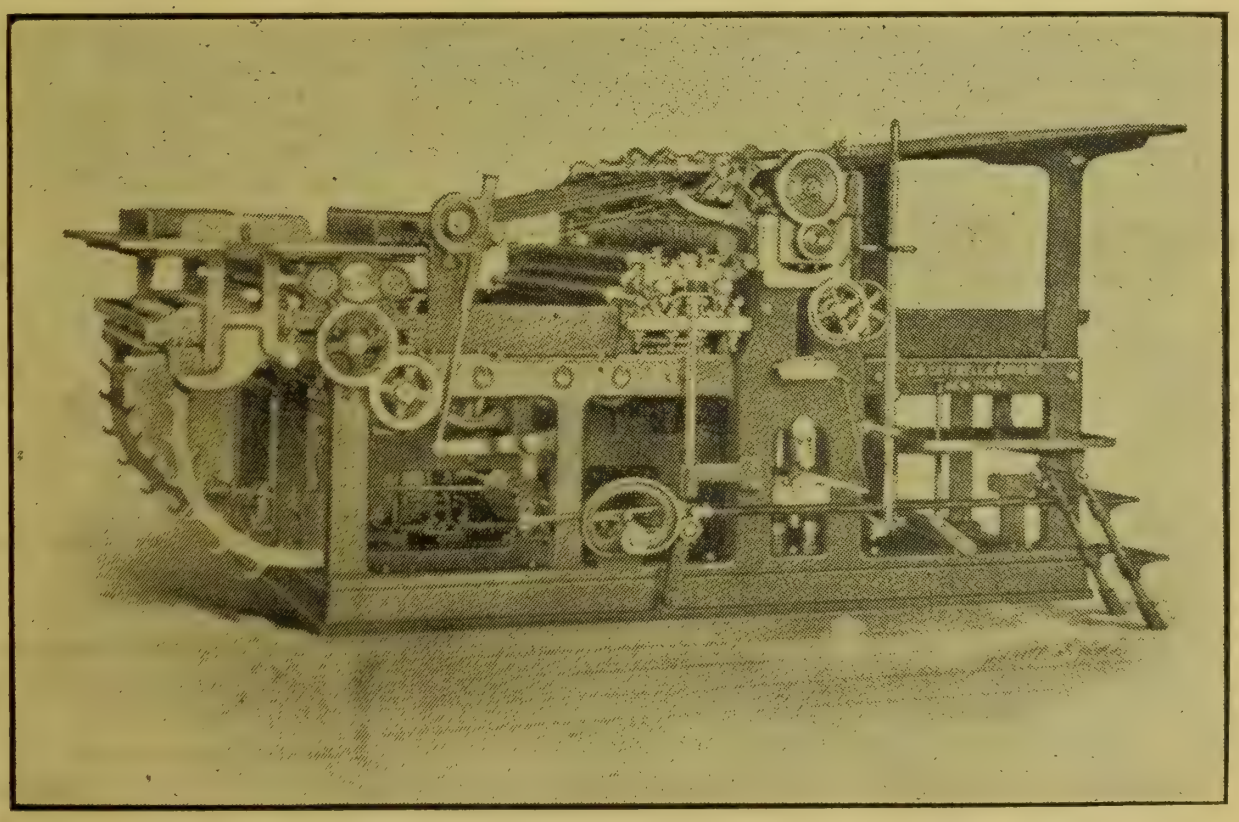
The Cultivator is printed and folded this week on its own two-revolution Cottrell press, one of the largest flat-bed presses in use today in this State. The growth of the Cultivator during the past year has made several improvements necessary in the getting out of the paper.

From sixteen pages to twenty-four, from 6,800 subscribers to over 10,000, in one year, is a pretty big jump for a weekly paper to make in a new State, where competition is sharp and industrial conditions fraught with the usual uncertainty attaching to a young and growing commonwealth.

The press was built especially for the Cultivator, with the expectation that in the near future the paper will be enlarged to thirty-two pages. The purchase of the press necessitated the buying, also, of a new Brown folding machine, which was also made to order; the paper being too large to conveniently fold by a smaller machine. In the purchase of the press and folder the future enlargement of the Cultivator is anticipated. With the wonderful growth the State is making and the strides the Cultivator is making, it will not be long until the capacity of all its machines will be put to the test. At present the paper on which the Cultivator is printed is purchased in carload lots and this item of expense is a very considerable feature in the business of the house. As was said, in a recent number, the circulation of the Cultivator is growing beyond the anticipation of its owners. North of the Tehachapi the ratio of increase is as large as in Southern California—a fact which advertisers have come to know by the test of returns received from the use of its columns.

It is not the intention, at this time, to enter specifically into a discussion of the future purpose of the owners of this paper. It will be enlarged in all its departments as its growth merits. But of one thing may its readers be assured, the Cultivator will be kept in the first rank of the procession. It will endeavor to employ the best talent and to give the best results to its readers, and those employing its advertising columns. The satisfactory returns these last have received, as evinced by unsolicited testimonials from them, are most gratifying, because the value of the paper is thus fixed with those who know the worth of genuine newspaper circulation. There is no agricultural weekly on this coast that approaches the Cultivator in point of widely diffused circulation, and its constituents today embrace the most intelligent and the most substantial elements of our rural population. This is true in Northern as well as Southern California, and another gratifying feature is in the fact that eastern people coming to the State to locate look for, and subscribe for, the Cultivator. In this respect the friendship of the constituents of the paper is thoroughly appreciated, for it is through the good words spoken by Cultivator readers to new comers that a considerable increase in its patronage is secured. Of one thing may the patrons of this paper be assured, an earnest effort will always be made to publish the facts about things as they are disclosed. If an error is made in any matter, a correction will as promptly appear. More than this no newspaper can do, nor should it be expected.

The Brown folding machine is also of the latest pattern, expressly built for the Cultivator and one of the best constructed of its kind. With these new appointments we hope to make a paper in all respects the equal of any on this coast.



Our New Two-Revolution Cottrell Press, one of the Largest Flat-Bed Presses on the Coast.

The beef interest in San Joaquin county is alarmed at the ravages of two diseases which are attacking the cattle. They are blackleg and the premature birth of calves. A great many calves are suffering with the former disease, which is prevalent throughout a district from four to ten miles north of Stockton, and there are a number of cases in the southern part of the county also. In the Cultivator two weeks ago, the subject of blackleg and its treatment was fully discussed.

MEETING OF CO-OPERATIVE ASSOCIATION.

At the late State Fruit Growers' convention at Fresno the president was empowered to appoint a committee to devise plans to promote co-operation amongst producers. As announced in the Cultivator, Commissioner Cooper appointed that committee, which was composed of A. R. Sprague of Sacramento, F. H. Babb of San Jose, S. G. Rodeck of Campbell, Arthur R. Briggs of San Francisco, H. P. Stabler of Yuba City, A. D. Bishop of Orange, W. P. Weber of Santa Paula, Thomas Jacob of Tulare, A. L. McCray of Fresno, and B. F. Walton of Yuba City. A. R. Sprague is the chairman and A. L McCray the secretary of the committee.

This committee met in San Francisco last Friday and Saturday, and adopted the following resolutions:

Resolved, That it is the sense of this committee that the fruit growers of the State, wherever practicable, organize local associations for the preparation of fruit for market, and that these several associations then connect themselves with some selling agency to make sale of their crop at the best market rate, at such times and for such prices as the agency acting in conjunction with associate organizations may deem best. In case no such selling agency is available or satisfactory, we recommend that they proceed to establish one by delegate representative from each such local association.

Also, that we further recommend that all selling agencies composed of organized growers unite by delegate membership to form a central selling and purchasing agency by which the highest advantages in buying and selling may be secured, without, however, relinquishing any brand, trademarks or other advantages peculiar to each, but eliminating to the greatest possible extent injurious competition with each other in the market and in every practicable manner extending the consumption of California cured fruits.

Also, that we disclaim any purpose to antagonize any interest by such recommendations, being fully aware that a large percentage of the business will remain to be done by established organizations. But we believe that when a considerable portion of the growers become thus organized it will be possible to find a common basis of agreement with such interests by which market values may be sustained and regulated better than at present.

Also, that we further recommend that such centralized agency at the earliest practicable moment develop a plan for efficiently advertising California cured fruits and placing them with the consumers at prices which shall provide for a fair profit to the grower, wholesaler and retailer.

We further recommend the formation of a committee to procure and make available statistics in relation to the fruit products of the Pacific Coast and competing countries.

The following resolution was also unanimously passed:

Resolved, That a committee of three, with H. P. Stabler as chairman, be appointed to outline and put into operation a plan for increasing the consumption of the cured fruit of the State.

The chairman appointed on the committee with Mr. Stabler, Arthur R. Briggs and A. L. McCray.

Floods in Solano county have done much damage this spring to lands which have not been overflowed for thirty years. Farmers are thinking of holding meetings to pray for a cessation of rain.

BY J. W. MILLS, ONTARIO, CAL.

GRAFTING LOQUATS.

Editor Cultivator—Will you kindly tell me through your paper whether loquats are budded or grafted and how and when?—Subscriber, Santa Ana.

Loquats are successfully grafted, just as other nursery stock is. As to grafting over old trees, we have had no experience, but do not see why there should be any difficulty in doing it. There is no tree that we know of among our fruit trees (those belonging to the same division as palms excepted) that cannot be grafted. The essential point is to match the inside barks of scion and stock, and wrap closely enough to exclude the air till the graft begins to grow, when the wrapping should be removed. Waxed cloth is the best wrapping material. Make it in strips about two-thirds of an inch wide. Make it by dipping a piece of cotton cloth in boiling beeswax. Tear it in strips after it is cold, or at the time of using.

* * *

PEAR BLIGHT.

Editor Cultivator—I see by one of your late papers that complaint is made of pear blight. I have been informed that salt was a good remedy for that disease. Do any of your readers know anything of the facts in this respect? Also, do you know of any one who raises pear and apple seedlings on this coast?—D. D. A., Santa Ana.

We do not know of any authentic case where pear blight has been cured by the use of salt. It has been demonstrated beyond a doubt that the disease is caused by a bacteria and travels with the sap of the tree, and when it is once in the circulation, that part of the tree is doomed. The only effective remedy is to watch the trees and cut the branches off several inches below where the point of infection is shown. Keep an eye on your trees and a few trimmings will head off the blight except in those cases where it does not show up till it reaches far down on the main branches. In such cases it is useless to try and save the tree.

The disease gets into the circulation in most cases through the stigmas of the blooms and works down. Salt will have no effect upon it. It would have to be sprinkled upon every bloom that opened if it had any virtue at all. The idea that plants will take up all sorts of poisons and administer them to their enemies inside and out is erroneous. Those medicines always follow in the wake of fakirs.

The plant and seed men may aid you in securing apple and pear seedlings. We know of none being raised on the coast.

* * *

BUD VARIATION OF GRAPES.

The Gardener's Chronicle states that of two stems taken from a single muscat of Alexandria vine, one stem produced normal Muscat of Alexandria grapes and another an entirely different type of Muscat. In another instance a vine of Black Hamburg produced a bunch with berries double the normal size and different in form from all the rest on the vine. The spur which produced this sporty bunch of grapes carried two branches, one branch producing the bunch described and the other producing a bunch absolutely normal.

DEEP PLANTING OF TREES.

Systematic planting of trees at different depths at one of the German experiment stations showed that the size of the tree and the development of the root system decreased with every increase of depth in planting beyond that of the normal. There are always some growers who think that it is best to set a tree a little deeper in the orchard that it grew in the nursery. The experiment referred to ought to settle the matter for all who read this.

* * *

WHY POPCORN POPS.

The American Journal of Pharmacy records an experiment with popping corn, showing that it is the explosion of the starch cells, the water in them being converted into steam. It was found that old and dry corn did not pop readily, such corn only being ruptured by a few cells near the center of the kernels. When it was heated slowly, it did not pop. Soaked for 12 hours and dried for the same length of time it did not pop well, but if allowed to dry for 24 hours it did, the resulting kernels of popped corn being not only very large, light and flaky, but had absolutely no suggestion of toughness. Popcorn always bursts at the most dense point, which is in the center and never at the small end where the cells are less compact.—Exp. Station Record.

* * *

FROSTED WALNUT TREES.

There have been a large number of English walnuts planted in the vicinity of Pomona during the past two or three years and this winter there has been considerable loss from dying back of the last summer's growth. Local inspectors examined the trees and said that the cause was evidently frost, the southeast sides of the branches having turned black, while the balance of the limbs had dried out. Small Valencia oranges in close proximity were not injured in the least. These facts were communicated to Prof. N. B. Pierce at Santa Ana; dead branches were also sent him, it being supposed by us that the walnut blight might have caused it. Prof. Pierce answered as follows. "I have examined the walnut branches sent and can find no evidence of parasitic trouble, on the contrary the injury is like that produced by burn or frost, and is largely confined to one side of the limbs. It is probable cold that has done the work as young walnut shoots are very tender—much more so than those of the orange."

We have since had our attention called to blackberry bushes which seem to be affected in the same manner. It seems strange that blackberry bushes should be frosted. They, however, were turned black on the side which was exposed to the rising sun, the rest of each cane being but slightly injured except in severe cases. The unusually dry condition of the atmosphere during the coldest weather may have brought about these results.

* * *

SEEDS.

There is an idea among growers that but one seed in an apple or pear will grow, no matter how many are in each fruit. This has been proved an error. Trials with apples show that neither the size of the fruits nor the number of seeds have any appreciable effect on the germinative power of the seeds and probably not on the vigor of the seedlings. With crabapples the results seem to show in favor of seeds from the smaller specimens of fruit. The most important feature is the vitality of the germ with the proper amount of natural moisture in the seed to dissolve and carry the reserve nourishment in the seed to the germ that needs it during the sprouting period.

Seeds lose their vitality much sooner when kept loosely, about as they are on the farm. If they are allowed to become partially moist and then are subjected to extreme dryness, their vitality is likely to become impaired. In our climate these conditions do not prevail during a greater part of the year. It was found at the Tulare Experiment Station that seeds kept in gypsum were free from insects, it being destructive to the life of those which attack them. When the weevil got to be bad in the barley bins, gypsum was sprinkled over the grain and the weevil was soon destroyed or driven out and the horses did not show any dislike for the grain nor was there any bad effects from its use. Seeds which are kept at a uniform state of dryness retain their vitality longest and when bottled with gypsum are very sure to keep their vitality longer than when kept in cloth or paper bags. Tests made at the Connecticut Experiment Station showed that California seeds showed the highest vitality of any seeds tried. Our dry climate is the cause of this.

Small seeds start quicker than large ones, there being exceptions, of course, barley being one of them. Soaking seeds aids germination and gives a better stand. It was found that when cereals that were 20 to 25 years old were soaked for one day in a 10 per cent solution made from freshly germinated barley, the germination was increased 50 per cent. A weak solution of pepsin had the same effect.

Different kinds of fertilizers were tried. Muriate and sulphate of potash, sulphate of ammonia and nitrate of soda interfered with germination of seeds of peas, beans and all of that class. With cabbage, cauliflower, turnips, mustard and plants of that cla sulphate of ammonia only was tri and it interfered with germin tion. This has the same effect on mo seeds. The common source of this m terial on the farm is from stable m nure that has been treated with gy sum. It therefore should not be appli to the graden where vegetable seeds a to be planted, though it is good mate al for growing plants. Slag phospha and simple liquid manure have a te dency to aid germination of all kin of seeds. Liquid manure not only pr motes the germination of seeds but h a good effect on the growing plants a terward. Every farmer should ha his barn so arranged that all of t liquid manure should drain into son receptacle on the outside. This, dilut with 8 or 10 times its bulk of wat is the best and most economical fert izer for the garden.

EVERBEARING RHUBARB.

J. B. Wagner, of Pasadena, has se a large number of roots of the Cri son Winter Everbearing rhubarb th year, and says it is one of the mo wonderful bearers of a high qualit and also that it is an eorly and co stant bearer.

This valuable and wonderful pla was introduced by Luther Burbank, Santa Rosa, Cal., who is known t world over as the Wizard of Hortic ture, having produced more new fru and plants than any other living ma

Crimson Winter starts to grow vigo ously by October and produces stal continually until after common var ties make their first appearance, sou six months later. In our rainless Ca fornia climate it reluctantly takes rest during midsummer, but if ke moist produces stalks abundantly all seasons; it is in fact absolutely pe petual. Mr. Burbank considers this t greatest and most valuable novel he has ever introduced.

The stalks are of medium size, ave aging twelve to eighteen inches length, about one inch in diameter, a beautiful crimson color; when coo ed, turning to a clear crimson.

In quality it is simply superb, fu equal to the finest berries for sau and pies. It is not insipid and tas less, like ordinary sorts, it is really combination of fruit and vegetab coming at a time when such things a unobtainable at any price. The skin so thin and tender it is not necessa to remove it, and when cooked a bea tiful crimson sauce is the result, loo ing and tasting like berries—flav sprightly and refreshing, combinin that of the raspberry and strawberr but greatly superior to either as a coo ed fruit.

Mr. Wagner still has a number of t plants for sale and it is not yet too la for the planting.

MAYWOOD COLONY
NURSERY
W. HERBERT SAMSON, PROP.
We have for sale all leading varieties of Deciduous Fruit Trees
OUR SPECIALTY:
Lob Ingir or Genuine Smyrna Fig of Commerce
A WORD ABOUT FIGS: We sell the genuine Fig of Commerce. Our cuttings came from bearing trees in the orchard of the Stanford estate, near Vina, and the fruit from these trees, after being examined by the best fig experts of the State, is pronounced the genuine Fig of Commerce, the Lob Ingir. Dr. Eisen says this and no other variety should be known as Smyrna, if the name Smyrna is to be used at all. We can refer prospective purchasers to the Supt. of the Stanford ranch, at Vina, for a verification of this statement. As to my own reliability, I can refer parties to any of the leading merchants of Corning, and to the Bank of Tehama County, and the Herbert Kraft Co. Bank, at Red Bluff, Cal. No one in the Unites States originated the Commercial Smyrna Fig. It is a variety which has been grown in Asia Minor for thousands of years. Parties may originate a fancy name and copyright it, but this does not make the fig they sell under a copyrighted name, any better. The fig we sell does not require a high sounding name to make it appear as the only commercial fig. All that we claim for our fig is that it is known as the Lob Ingir, the cuttings of which came originally from the famous orchards of Smyrna, Asia Minor, and is of the variety so largely imported into the United States in the dried state. We are not charging you for a private copyrighted name, but we sell you good 2 to 4 foot trees of the Genuine Smyrna Fig of Commerce at $150 per M. To fully demonstrate the methods used by some nurserymen in giving old varieties of fruit trees a new name and thereby make it appear that they have the only genuine article, we will say, how ridiculous it would be if we copyrighted a name like "Muro" and sold the old variety of Muir Peach under this name. Do not be misled by copyrighted names. We have the genuine Smyrna Fig of Commerce and if you want to confirm our statement, we do not hesitate to refer you to the above named parties. We can supply prospective planters a small sample of our dried figs for comparison with the so-called copyrighted figs. We also have for sale all varieties of Capri Fig trees, and all of our customers will be supplied at the proper time with a colony of Fig Wasps, free of cost. Address
W. Herbert Samson, Prop., Corning, Tehama Co., Cal.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

VINE GROWERS TO FORM STATE ORGANIZATION.

A convention of the vine growers of the State has been called to meet in San Francisco on the 26th-27th inst., for the purpose of organizing "The State Viticultural Club," as the call sets forth, for the purpose of mutual improvement and mutual aid. The scope of the organization, of course, is yet an unknown quantity, but it will probably take up the work of the old Viticultural Commission, which was abolished some years ago, and consider, from the standpoint of practical men the various problems which confront the vine growers. The call sets forth that such troubles as the Anaheim disease, the Phylloxera, etc., will receive attention, with a view to preventing their further spread and, if possible, to reduce their area of activity. If a strong working organization is formed it will also be able to consider the proposition of marketing the grape crop or of establishing co-operative wineries, together with very many other matters of vital interest to the growers. It was a mistake abolishing the Viticultural Commission. This body was devoted wholly to the interests of the grape men, it held conventions at which were discussed methods of growing, manufacturing and marketing the products of the vine and gave the grape men a rallying center around which they gathered and discussed matters of mutual benefit. Organized as they were under this bureau they possesed power for their own benefit which they have never had since, and which the present movement for organization shows they stand in need of.

* * *

COMPERE TO SEARCH FOR A CODLING MOTH PARASITE.

Arrangements have been perfected by State Horticultural Commissioner Cooper with George Compere by which that gentleman is to work for California in conjunction with the West Australian government. Mr. Compere has been engaged by the latter country for some time searching for a parasite of the fruit-fly which has proven such a terrible pest there, and he is now on his way to Brazil, where, from information he has received, he hopes to find the home of the fruit fly and to be able to discover and secure the natural enemy of it. The arrangement made with Mr. Compere is to the effect that he shall work for both countries, seeking the parasite of the fruit fly especially for West Australia, and the parasite of the codling moth for California. These are the two specialties to which he is to devote himself. If, however, he finds other beneficial insects he is to send to both States impartially. He will first visit Brazil and ascertain the chances for securing the fruit fly parasite there, and then go to the south of Europe, where he believes that he has seen the effective parasite of the codling moth, and where he expects to remain a year investigating this and securing and shipping these parasites to California. During the term of his contract he is to be under the direction of Mr. Cooper, the West Australian Government having conceded that point. During a visit to Europe some time since, Mr. Compere states that he found a parasite at work on the codling moth and he believes that it is the one which checks that pest in that section. Whether he is correct in his supposition or no remains to be proven, but it is certain that there is some efficient check there which keeps this pest below the danger line, for although the codling moth has been known in Europe from the time any attention has been given to entomology, it has never been a serious pest, and while a very small percentage of wormy fruit is found, it is so small that no notice has even been taken of it, and it has never been necessary to spray with Paris green or anything else. It is sincerely to be hoped that Mr. Compere's mission, so far as the codling moth parasite is concerned, will be successful for our sakes and that he may also discover the check for the fruit fly, for while we have not got this pest as yet, we may have some day and it will be well to know what controls it in its native home.

* * *

THE PEACH ROOT BORER IN SANTA CLARA.

The prune and peach growers of the Santa Clara valley are beginning seasonal operations against the worst insect pest with which they have to contend, the peach root borer. In a recent address before the San Jose Grange, Mr. Ed. M. Ehrhorn, who has studied this insect more thoroughly that any other entomologist, states that in California there are three annual broods of the pest, while the eastern peach root borer has but one. It will be seen from this that the work of keeping this pest in check is, therefore, more difficult with us that with the eastern fruit grower. The broods hatch here in April, June and November. The great effort should be to keep down the first brood and this will lessen the trouble with the subsequent generations, for if we get rid of the first we shall not be troubled with the others. Now is the time, too, to commence operations against them, and the best thing in the way of remedies so far is preventive. Keep the borers out. To this end the best means lies in the use of stout paper barriers, and good stout parafine paper has been found the best and most serviceable. In placing it, the soil should be removed for a depth of six or eight inches from the surface around the trunk of the tree and then the paper should reach for eighteen inches up the trunk, so a piece of paper eighteen or twenty inches long and sufficient to wrap well around the tree should be used. This should be tied in several places to hold it firmly to the tree. These barriers should be in place by the middle of March, as the moths begin to fly in April and if the females find the trees thus protected they cannot lay their eggs in the accustomed place and will leave a tree so protected. In this case, as in all others, an ounce of prevention is worth a pound of cure.

* * *

TO CONTINUE EXPERIMENTS IN THE PAJARO VALLEY.

The apple growers of Watsonville have made up a purse for the purpose of continuing the experiments so well begun last season by Profs. Woodworth and Clarke against the codling moth in that section. It is to be hoped that some satisfactory arrangements can be made with the same gentlemen to continue their work. It is impossible to carry out any experiment in these lines to a final conclusion in one year, and very many of the experiments commenced last season should be continued, and under the same direction, for several years, until it is either demonstrated that they are valuable or valueless. There has been much complaint among some of the fruit men in the Pajaro valley because more was not accomplished last season, and the objectors assumed that every experiment should be a success. But if it was known beforehand what the results of experiments would be there would be no necessity for making them. It was the fact that they did not know that led to the various experiments, and of course some of them were failures, but enough good has been accomplished to warrant a continuation along the same lines and the enterprising apple growers of Watsonville are to be credited for their determination to continue the work another season.

* * *

DECIDUOUS FRUITS IN THE NORTH.

For over a month past there has been very little clear weather in Northern California and rains have been frequent and sometimes heavy, in consequence both farm and orchard work have been very much retarded, and in many cases trees are out in bloom before it has been possible to prune or spray them. It is too late to use any of the winter washes and orchards that have been left will now have to go unsprayed this year. In some cases pruning will also be left, but many orchardists are doing the work, despite the fact that their trees are in bloom. So far as there can be any forecast so early in the season there will be a very heavy deciduous fruit crop this year. There have been abundant rains, the soil is well saturated and there will be no scarcity of moisture all summer; trees have not bloomed prematurely, as is often the case, and there has been no damage to blooms from frost. It often happens that we have a very warm spell in January or February, which starts the sap flowing and forces the trees into bloom; this is usually followed by a cold spell, the blooms are killed and the prospects for a crop that year are gone. Another result of this early flow of sap, when followed by severe weather, is sour sap and the ruin of affected trees. We have so far escaped these dangers this season. The early part of the season has been sufficiently cold to keep the trees dormant until the danger is past and at the same time there has been no severe weather to injure them, and we are gettting so far along now that any danger from frost is being reduced to a minimum. Throughout the whole deciduous fruit section the trees are well loaded with bloom, and unless the unexpected should happen there will be a very heavy crop of deciduous fruits.

* * *

ABOUT THE BEN DAVIS.

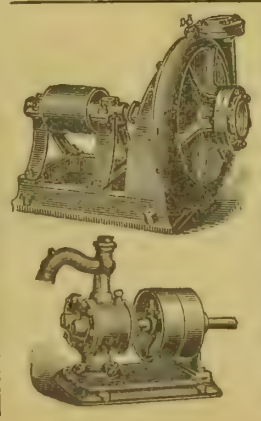
Probably there is no fruit over which there is so great a diversity of opinion among growers as the Ben Davis apple. It has strong friends among those who want an apple that will sell on its appearance regardless of its merits, while it is as roundly condemned by those who desire to grow fruit for quality. What can be said for the Ben Davis is that it is a handsome apple and will sell to the unitiated on its looks, it will ship well, and keeps without rotting, drying up and becoming dry and leathery, without decay setting in. This is because it is a dry, juiceless fruit. At the late convention of the Oregon fruit growers, whose principal fruit is the apple, this unfortunate variety came in for a hearty round of abuse, and in response to the question whether there was a man present who would use a box of Ben Davis apples in his family in a whole year, there was a hearty round of laughter. In summing up the virtues of the Ben Davis a writer said that it is red, of fair size, and a good keeper. Beyond this nothing can be said in its favor. It takes rank in deceptive appearance with the "pound pear," and outranks in tastelessness the great, overgrown, pumpkin-like Gloria Mundi, which was a product of pioneer orchards when apples were apples in Oregon and no questions asked. It is unlike the turnip in that it grows upon a tree, and unlike that most tasteless of all vegetable, the Summer squash, in that the latter, by cooking and liberal seasoning, can be made palatable. Let us hope that the voice of horticulture will prevail against it, and that the trees that produce it will be uprooted from our commercial orchards. An apple that is not an apple, let the Ben Davis pass. It has held its place in appledom by its good looks and its habit of drying up without decaying, long enough.

* * *

WILL NOT MIX.

Editor Cultivator: Will you kindly answer through your paper whether canteloupes and summer squash will cross if planted close to each other?—I. W., Hollywood.

There is a very wide-spread belief that curcubits will mix, and that when grown close together, watermelons will cross with squash, and musk melons with cucumbers, etc. Like very many other popular beliefs, it is not true and our correspondent may rest assured that canteloupes and summer squash will not cross if planted close to each other. This matter has been scientifically settled by a long series of experiments made by several of our leading horticulturists and hybridizers. In Ames, Iowa, Prof. L. H. Pammel, of the University at that place, carried on experiments covering a number of years, and despite the most careful efforts, failed to produce a hybrid. Naudin, who is authority on this subject, experimented for many years with a large number of varieties from different places and found that the species did not mix, and that when hybrids were produced they yielded either no seed or sterile seed. Prof. Bailey, who experimented along the same lines, states that he made many careful hand-pollinations between the two classes of fruit, and in no case has seed been produced. Beside these other experimenters have worked along the same lines and with the same results, so that the question is fully settled that different species of curcubits will not mix.—



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INSTITUTES AND CLUBS.

Another feature that always prevails in our Southern California Institutes, that has been criticized to me personally, is common in the Institutes East, though not universal, and is generally omitted in Northern California, is to have invocation at the opening of each morning session. It seems to me that this recognition of the "All Father" is good, and as I know that a very large majority of our people agree with me, I have made this a regular feature of our Institutes. Even the two who have criticized this to me have added that they knew that they were in the small minority, and so they wished the continuance of the custom. The professors of the University have contrasted our Institutes with those north in this regard, to me and in the press, and have commended our practice.

We also always try to secure, and usually with excellent success, a neat decoration of the hall, a good exhibit and good music. I am told that in the North little attention is paid to any of these. Surely no one who has attended our Institutes need be told of the benefits which come from all these. The pleasure, restful influence, and the refining effect that come from all the first and the last more than pay for all that they cost. One of the best Institutes that we ever held occurred at Ventura, last September. Mrs. Sherman commented on this and referred to the wondrously beautiful decoration of the church and the superb music and wished that all the Institutes could have the aid of such helpful auxiliaries. The exhibit is often very instructive, makes the recesses more pleasurable and often advertises the place to a remarkable degree. A fine exhibit at one of the Redlands Institutes brought many letters to me from returned tourists inquiring about Redlands and California. This is no exceptional case.

A unique feature of our Institutes, which originated with us, is the attempt to start a club at each Institute, if none exists. This is of tremendous importance, as if successful, it makes the Institute perpetual. There is no use to commend these clubs to any one who has watched their progress.

There is one thing that I wish to speak of in relation to the clubs. At one of our Institutes there was a strong protest made by a very bright man against the name "Farmers' Club." He said it prejudiced many against the organization. While I do not sympathize with this, as the word farmer is very dear to me, yet if another name would in some places bear better fruit, then I say by all means adopt it. Some of our best clubs, like that of Tropico, are called "Improvement Associations." The name is suggestive and is certainly unobjectionable. I personally like the name "Farmers' Club," for as Secretary Moody said of the laboring class, "They are eternally right," so I believe it might be more truly said of the farming class, and if so the word ought to adorn.

* * *

MOLES AND GOPHERS.

Geo. H. Larkin, Geyserville, is very much annoyed with gophers and moles that infest his lawn and garden. We have been similarly troubled. We have met success in two ways. We have poisoned with strychnine, and have caught with traps. We get the granulated strychnine, and poison raisins, which are kept in a bottle in the pocket. When signs of the burrows are seen we open it and put in a raisin. We also succeed with this poison by use of green twigs which we split and insert the poison and then place as we did the raisins. I like the traps as we know then that we have the game. We find that both the wire and the box traps are a success. We used a wire trap one day and caught, simply a tail. The next day we got the balance of the gopher. In our citrus orchards we must fight the gophers or our losses would be serious.

* * *

GARDEN FERTILIZER.

W. R. Gaylord, Auburn, raises garden vegetables. He has used stable fertilizer, and desires to try commercial, as the labor of drawing the other is too great. He can use a high grade complete fertilizer, or, if he prefer, he can omit the potash, as in the granite soils about Auburn there is very likely enough of the potash. In this case he can use dried blood for the nitrogen, or Chili saltpetre, and treated bone for the phosphoric acid.

From 160 to 300 lbs of nitrate of soda would be safe for the nitrate per acre. The black dried blood may be used, and a little more should be used than of the nitrate. I would suggest from 200 to 400 lbs. Of the acid phosphate 400 lbs. would be about right. I would suggest that they be added just before irrigation, as the water then would carry them at once to the roots. If the nitrate of soda is used we might add it twice at an interval of three or four weeks. Of course these give little humus, none except we use the dried blood; and humus is needed in all our soils. Yet as Mr. G. has used stable fertilizer before, he may have a good supply of this valuable element in his soil. I suggest that all who are interested procure "Fertilizers," by Voorhees, published by MacMillan Co., N. Y. I wish some of our gardeners would give us their views in this matter.

* * *

DISEASED BEES.

Fred M. Hart, Bee Inspector, Hanford, reports to me that bees are dying. He wonders if it can be poisoning? Careful examination finds no evidence of poisoning. Indeed. I do not see how bees could get poison at this season of the year. I rather think it is bee paralysis. This trouble does not usually occur so early but see no reason why it might not be so.

* * *

WHITE ANTS.

J. F. Brumund, Cucamonga, sends me pieces of the cane of grape vines which are bored by insects. He wishes to know through the Cultivator what the insects are, and whether the damage is likely to be serious. He finds quite a number in the neighborhood, all in old vines. These prove to be white ants. It is not the first time I have heard of such ravages by this insect. The white ant is known the world over for its wood boring habit. I believe a little lard and kerosene would scatter them without injuring the cane. Yet from past experience I hope they will not do enough damage to warrant much expense in their destruction. It will be remembered that these white ants are much like bees and true ants in that thy live in large colonies, though here there are as many as eight kinds in one family, the winged male and female, wingless forms of the same, and workers and soldiers, both of which may be either imperfect or undeveloped males or females. We often find white ants around Claremont boring in the various trees.

* * *

DISEASED POTATO PLANTS.

Mr. Edgar Leavitt, Glendale, has potatoes which seem to be suffering with the blight. He sends me leaves which show no sign of fungus, though they may not be far enough advanced to show it. Possibly they are suffering from bacterial trouble. The Bordeaux mixture is successfully used against blight. The Geneva (New York) station finds that if this substance had been wisely and generally used in New York the past year, many millions of dollars would have been saved to the potato growers. Mr. Leavitt and several others have also asked me recently if there is a remedy against potato scab. I notice that a bulletin from the Geneva (New York) station suggests formalin as a remedy against this trouble, which I believe has been proved to be either bacterial or fungoid.

The recipe is as follows: One pint of formalin is added to thirty gallons of water. The seed potatoes are soaked in this liquid for about two hours before planting. I would suggest that those who are suffering from scab try this formalin treatment while any who are suffering from blight should certainly use the Bordeaux mixture. I am asked to give a paper on Bordeaux mixture, which I will do at no distant date.

* * *

A MEMORABLE GATHERING.

It is rare that so able a body of men get together as those that inspected the wonderful orchards of the Arlington Trust Co., of Riverside, on Monday the 21st. Such men as C. C. Chapman, C. C. Teague, Frank L. Palmer, Prof. C. B. Sumner, R. P. Kundiff, E. L. Koethen and C. E. Rumsey, together with the hosts, Messrs. Fraser, James Mills and Frank Little. The stupendous thing about it is that although all were asked to criticize freely, and though we visited many parts of the immense estate, thousands of acres, almost everything was pronounced wonderful in its perfection. Only one thing in the entire round of inspection was commented upon adversely, though the orchards and packing houses were closely inspected. That—the dropping of the oranges from the grader to the box—was of small moment. It is marvelous that so large a place can be carried on in such an admirable way. It speaks volumes for the skill and vigilance of the managers, and hardly less for the help that they employ. Mr. Mills said that they had not a man on the place that could not be trusted, out of, as well as in, sight. We shall often comment upon the methods of this exceptional orchard.

Notice to Orange Growers!

NOW is the time to buy orange trees. The slump in the price of oranges has resulted in a corresponding slump in the price of orange trees, and it is not likely that you will ever again be able to buy first-class trees of every standard variety for so little money. Of course the shrewd grower has already perceived this, and instead of yielding to the "blues," is now making preparations to set out that five or ten acres that are still vacant on his ranch.

In searching for trees, kindly bear in mind that we are headquarters in California for Citrus Stock. Our trees are perfect in every way, thrifty, and guaranteed true to name. Consult us and we shall be pleased to quote prices that will not alone interest, but will positively surprise you.

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P. S.—First-class Citrus Trifoliata Seed Bed Stock now ready for immediate shipment.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

A GOOD RED ROSE.

One of the best roses introduced in years is Gruss an Taplitz, a fine red, perhaps the very best of that color for Southern California at least. Not only is color and form well nigh perfect, but it is a wonder cropper, producing more flowers for size and age of bush than any other red. Prince de Sagan is also a satisfactory red, though not so good as the first. In climbing reds, something that will not turn a hideous purple, like the Henrietta and more free from the blasting effects of mildew, will be found in the Climbing Souvenir de Wootton, a really fine rose and too little planted in the southern part of the State, while good words are spoken for it from the north.

* * *

A BEAUTIFUL SHRUB.

Everyone to whom it is possible should plant out one or more of Grevillea Thelemanniana, a scarlet flowering shrub for all situations, and growing particularly well in dry situations. While it is very free in flowering, it is also showy when out of that season, the foliage being very fine and fernlike, of a beautiful, dark, glossy green. Each succeeding year proves more and more the value of this Grevillea for California. While a single bush looks well, a cluster or mass of them is even better. Few would suspect, much less know, that this little beauty was a full brother (or sister) to the Grevillea robusta, or silk oak, so common along our streets and highways.

* * *

ROSE CUTTINGS.

Subscriber, Fresno.—Keep your rose cuttings growing until about October first, then stop watering and allow them to slowly "dry off." This they will continue to do until the leaves drop off, or at least turn yellow and many of them drop. They are then what the gardener calls "dormant," and ready to plant out in their permanent places. Should an early autumn rain catch you after the curing process is well along, plant them out immediately or the rain will induce a new growth in the cutting bed, a growth which should occur in the garden.

* * *

MOVING LARGE EVERGREENS.

J. D. B. has some large evergreens to move, there being two species of Arancarias among them, and wishes to know the best time to do the work. Right now. All trees which come from a warmer clime may be moved with greatest safety during warm weather. The writer's experience has been that they are best moved just as they are about to commence spring growth, or just as they have finished it (about August or September). We have no illustrations of box used and are sorry we cannot furnish the correspondent with a usable description without diagrams.

* * *

ACACIAS FOR STREET USE.

Mr. Woodbury, of Glendale, submits flowering branches of an Acacia for identification, stating he considers it the finest of all street trees for that section. It is Acacia mollissima of the nursery trade, or A. decurrens variety mollis of the best Australian botanists. It is, no doubt, the same tree that passes as A. dealbata, the two being so close that even the Australian scientists cannot tell them apart, and the dealbata will no doubt be considered a variety of A. decurrens when all is settled. So much for the names, which are very confusing—as for the tree, it is one of the most beautiful we have during the flowering season, while at other times it is still a very handsome tree, having a finely cut foliage of an ashy hue. The trees should be kept in shape by taking out the principal leaders of each branch and not be crudely chopping off the limbs at random.

* * *

STIR THE SOIL.

Now is the time to stir and manure the garden soil; turn it up as deeply as possible, let it remain a few days, rake smooth, wait another day or two and stir it up well—then is the time to plant. Many harmful garden pests and plant diseases can be kept down by such treatment, while such physical conditions of soil are most conducive to healthy vegetable growth.

* * *

Now is the season for moving and dividing roots, tubers, etc., of flowering perennials, or anything that grows in clumps, such as cannas, dahlias, elephant's ears, umbrella grass, papyrus. Such plants and golden rod, larkspurs, phlox and rudbeckias, will grow better if divided and given a new location and soil every third year. Try it and watch results.

* * *

Sow seeds of almost anything (or everything) during the next month—it is late enough for all classes.

* * *

LAWN WORK.

Just at present is the best time of all the year for lawn work, either to improve the old ones or put in new work. If a lawn is now in poor condition, nothing will so quickly improve it as an application of nitrate of soda, though this should be followed by something with "staying" qualities. If not in too great a hurry for effects, give the grass a good cover of well rotted stable manure, just after it has been closely cut. Let this stay on a few days, keeping the sprinklers going, and then rake off the coarsest material.

In making new lawn remember that as you leave the ground, so it will remain. Holes and hollows may be filled afterwards, but it is no exaggeration to say that such work requires ten times the labor that would have been necessary in the first instance. Thorough preparation of the ground, a covering of one inch of sifted cow manure after seed is sown, and plenty of water, carefully used, are necessary to success.

SAN JACINTO VALLEY.

A correspondent writing of the San Jacinto Valley, its attractions and enterprising people says:

From Redlands to San Jacinto is about 30 miles. The road from San Simatee Canon over the mountains, is one of the best mountain roads in the State. San Jacinto Valley is a beautiful fertile valley, beginning at the base of lofty San Jacinto Mountain, and stretching westerly about 30 miles, with an average width of about 10 miles. The soil in many sections of the valley is a rich sandy loam, easily worked, and especially adapted to the growing of alfalfa, which is beginning to be pretty extensively raised. The valley has a number of fine deciduous orchards, conspicuous among which is the apricot. It seems to be the general opinion of the farmers there, after some years of experience, that this section is, as a whole, best adapted to the dairy business, stock, hogs and poultry. There is evdently a fine future for this charming valley. It seems to be just entering upon an era of prosperity.

At Valle Vista Mt., W. D. Phillips has a fine orange orchard of 26 acres. His Ruby Bloods are as fine oranges as are grown anywhere. No larger or finer oranges than are raised there, can be found in any part of the state. Among the handsome farms in that section, that of Frank Litterer would probably carry off the honors. Mr. Litterer is 76 years of age, but still very active. Everywhere, on the model farm, in the house, as well as outside, one sees evidences of German industry, thrift and neatness.

Daniel Myers of Hemet, noted for his successful turkey raising, has now but 500 of them. His flock has been as large as 1400. Miss Kate Warner, of Hemet, will put in several acres of alfalfa, and try her hand at raising turkeys. W. D. Baisley, of San Jacinto, has an eighteen months Jersey cow that gives a little more than five gallons, a day, of milk, above the average in richness.

In some orchards I have seen, in my travels, the linnets have devoured nearly all the apricots—in the bud.

Does anyone know how these birds can be exterminated?

O.

"Scientific irrigation is far more important in the east than in the west. There it is a necessity. Here it is profit. That is, with irrigation the eastern farmer could usually double his crop, and without removing fertility or injuring his ground, other things being equal. With leguminous crops and irrigation here the farmer can forever convert air (or the nitrogen of it, which is the same thing) into flesh. The process is open to no doubt and is going on every day successfully.

"Science will have a great problem before it when the arid regions have by short-sighted booming been filled up with a population which will finally discover that what at first seems to be a most successful process of farming is a delusion—that what they thought was fruit was to end in ashes. Science must go to work to find a way to remove the excess of alkali from the soil. Thousands of fine farms have been abandoned because of alkali "rising" in the soil. Thousands more will be abandoned in the same way, and, unlike the abandoned farms of New England, they will never be sought again by any one desiring to get back to Mother Earth.—San Jose Mercury.

On Friday last the contract was let by the San Jacinto Water Company to A. G. Thornton of Colton for the manufacturing of cement pipe of 34-inch size. This is the largest pipe ever laid in that valley. Work is to commence as soon as the contractor can get his machinery on the ground, says the Register.

Santa Clara county, which stands at the head of the list of counties of California for the general excellence of its public highways, says Clark Alberti of the State Bureau of Public Highways, began oiling reads in 1892, and now has about seventy miles in operation.

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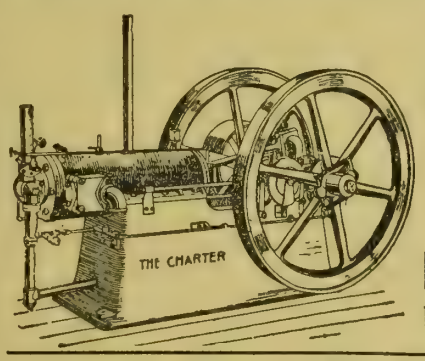

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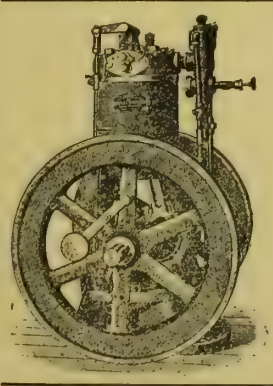
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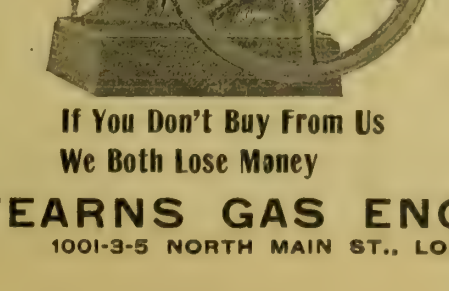
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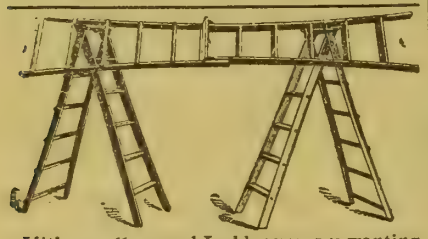

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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

HORTICULTURE.

The board of supervisors of Tulare county have instructed the Horticultural Commission to destroy all citrus stock shipped into the county which is infected with red spider.

John F. Spencer, of Glenwood Springs, Colorado, is reported to have produced a seedless apple of excellent quality. Mr. Spencer claims that diseases common to apples due to moths laying eggs in the blossom end will be avoided by his new variety. He also states that the buds can be grafted on every sort of apple tree, and asserts that the trees bearing the seedless fruit have no blossoms.

The viticulturists of Alameda county met in convention at San Francisco Saturday to discuss the dangers confronting the wine industry from phylloxera and the still greater danger of the Anaheim or "California vine disease." The committee urges that the wine men take measures to protect themselves, and while all credit is given the State University the viticultural department has limited means and a limited staff.

Mr. Theo. Kearney, of Fresno, proposes the following compromise ground between the raisin growers of that district who are as much, or more, divided in their views of what shall be done to advance the price of their products as are the orange growers of Southern California. The compromise ground is this: "Let the association be reorganized on the basis that all its members shall sign the yellow slip for such sums as they can afford, so that the association shall have a capital on which to do business, just as any other business concern should have, if it may hope for success; and let these members have votes according to their subscriptions. Limit the subscriptions to a basis of acreage and then you will preserve the control in the hands of the average growers—40-acre holders. Make the voting trust 5 years instead of 10. In this way the association would have a solid financial foundation, it could assist the growers in certain districts by putting up packing houses for them and charging a fair profit on the packing until the local association could raise the money to pay back the cost to the central association."

From Santa Ana comes the report that Prof. Newton B. Pierce, pathologist in charge of the Pacific Coast Plant Improvement Gardens of the Department of Agriculture, has received a consignment of 10,000 cuttings of the Lenoir grape vine from the Stanford estate at Vina in the Sacramento Valley, and is making preparations for placing them in the vineyards in the Santa Ana valley, with the expectation of proving conclusively that this variety is resistant to the California vine disease which has worked such widespread havoc to viticulturists. For the present the entire lot of cuttings will be heeled in at the Fullerton station, and as opportunity offers they will be distributed among growers in the sections where the disease has been the most virulent. The result of the experiments is expected to give ocular evidence to growers of the superiority of the Lenoir stock as a resistant to the disease. The vine disease first made its appearance near Anaheim in 1885 and has been the cause of the destruction of 25,000 acres of vineyard in Southern California, of over 5000 acres in the Sacramento valley and about 10,000 acres in the Santa Clara district, involving a total loss estimated at not less than $40,000,000.

An avalanche in the Cascade mountains near Hamilton, Wash.. has uncovered a large vein of bituminous coal on the property of the Cumberland Coal Company.

LIVE STOCK.

A condensed milk company has been organized in Hanford and its plant is now in operation. The labels on the cans will be, "Aunt Abby's Evaporated Cream."

At Redlands the price of milk has dropped, the local dairymen having announced that hereafter twelve quarts instead of ten, will be sold for $1. Redlanders are correspondingly happy.

Up in Tulare county eleven mortgages were released last week. Tulare owes much of its prosperity to the fact that some years ago it went into the stock, poultry and dairy business very largely.

The Tulare Register says: Those of our farmers who have been feeling that they would be satisfied with a hay crop are beginning to speculate on how much they will get for their grain this season.

State Veterinarian Blemer and the County Attorney of Napa county have just concluded an investigation of the 580 head of cattle brought into Napa county by the Pacific Improvement company, and find that the cattle were not infected with Texas fever.

The health officer and board of health of San Francisco are agreed that the standard of milk sold in that community must be raised. They have decided, therefore, to ask the Supervisors to amend the ordinance so that the standard of butter fat shall be 3.5 per cent instead of 3.2 per cent, as it is at present.

In San Louis Obispo county the farmers who have heretofore depended on grain growing entirely, are contemplating going into dairying. Diversified farming with cattle raising, has made every country rich that engaged in it. The cattle industry on the Pacific coast is only beginning. When irrigation becomes more general dairying will be the principal business of two-thirds of the counties of the State.

The annual meeting of the stockholders of the Watsonville Creamery Company, held at Watsonville this week, shows the creamery to be in a very prosperous condition, the country contiguous to Watsonville being especially fitted for dairy work because of its abundant supply of nutritious grasses. The report of the Watsonville Creamery Company for the year shows the following figures: During the past twelve months the creamery manufactured 202.881 pounds of butter, and the amount paid to dairymen for milk was $46,460.48, which shows a good average price throughout the year. The total operating expenses amounted to $4,244.85 and left a clear profit of $1,165.64, after depreciating the value of the creamery and fixtures 10 per cent. A dividend of 10 per cent on the capital stock was declared, amounting to about $2.50 a share.

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ALIAS SUMMONS.
No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.
Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.
(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

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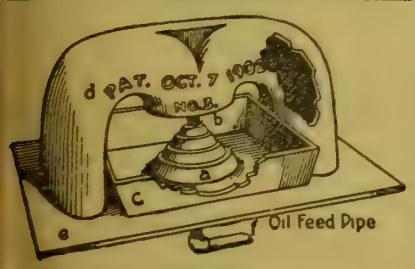

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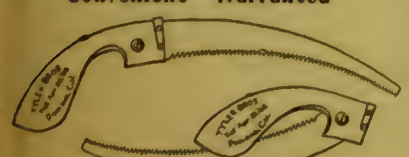
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Coast News and Notes

CONTINUED

MISCELLANEOUS.

Claremont will postpone Arbor Day from Aphil 28 to May 4.

The business men of Selma have organized a board of trade.

The estate of Alvinza Hayward foots up between four and five million dollars.

Fred Walters put out 40,000 strawberry plants last week on his ranch at Azusa.

Glendora has secured the right of way from Monrovia for the Pacific Electric railway.

Tulare county is arranging for a permanent exhibit of her many products in the Ferry building at San Francisco.

The Napa Journal says 28.22 inches of rain have fallen in Napa county as against 24.17 last year at the same date.

It is rumored at Whittier that the Central Oil Company has sold its interests in the local oil field to the Standard.

The government has set apart 500,000 acres of its unused mountain land in San Luis Obispo county for reservation purposes.

The San Luis Obispo exhibit, or contribution to the St. Louis Exposition, weighs 10,765 lbs., consisting of 700 different products.

Fallbrook, San Diego county, reports eight inches of rain this season and the Review says a splendid crop of hay and grain is assured.

The Santa Maria Oil Company struck a gusher well last week which shot a solid column of oil forty feet above the top of the derrick.

The Associated Oil Company, with headquarters at Bakersfield, is having constructed a dirt reservoir with a capacity of 1,000,000 barrels.

The barn belonging to Dr. R. E. Maxwell, of Sierra Madre, was destroyed by fire on Friday last, causing the loss of 1500 sacks of barley.

The celery growers of Westminster received last week over $75,000 for last month's shipments. Over 1500 carloads have been shipped this season.

An oil rumor is that the Turner Oil Company repudiated its contract with the Union and is to build a pipe line to Pico station, on the Salt Lake.

The city of Santa Barbara is about to call an election for voting $15,000 bonds for the purchase of some twenty acres of land in the extreme western part of the city for park purposes.

The Fresno car of exhibits to the World's Fair, St. Louis, contains a varied collection of honey, dried fruits, fancy raisin and fig packs, besides much expensive and beautiful wood of assorted lots.

It is announced by the Santa Fe road that it will soon put into service a new trans-continental mail train which will be operated between Chicago and San Francisco and Los Angeles on a faster schedule than any in effect.

The shortage of cars is causing considerable trouble to celery growers in the Sacramento valley and much complaint is being made that some of the product will be left in the fields in consequence of lack of transportation facilities.

The Harriman lines from the Coast to the East are said to be planning to expedite the fruit trains across the country. Faster service for fruit trains is one of the most important of all the demands of California shippers which press upon the attention of people.

Fresno has made a collection of pictures to represent the varied industries of the county as well as to call attention to the beauties which the location discloses. These pictures were produced at considerable cost and will be shown at the St. Louis exposition.

The Henry ranch, consisting of 23,113 acres, located in San Luis Obispo county, east of the Coast range, has been selected by the government as a military camp site, having set apart $500,000 as the purchase price.—Lompoc Record.

At the Elk Grove Farmers' Institute Prof. E. J. Wickson stated that the poultry industry in the United States amounts to 290 million dollars, and that California stands twentieth in the production of poultry and seventeenth in the production of eggs.

A school district in Alameda county has brought suit against the Sunset Telephone Company for cutting and damaging trees in front of school property. This is a move in the right direction. Stop this wanton cutting of shade trees by telephone companies at any cost.

For the Sacramento county exhibit at the St. Louis Exposition the Chamber of Commerce has had constructed as a novel show exhibition a prune bear. The figure of the bear stands twelve feet in height, it is six feet through the heaviest part of the construction and weighs 3000 pounds.

Oakland is preparing to plant several thousand shade trees of varied sorts on the streets. Down in Los Angeles the ruthless ax of the tree destroyer is felling shade trees. Will it never be remembered that shade trees are the best promoters of moisture; that where the country is destitute of trees there is drouth? Plant trees, don't destroy them.

In a booklet just published the Lindsay district is pronounced a wonderful section for prosperous farming. Among numerous advantages of soil and climate the following is announced: Corn, potatoes, vegetables of all kinds, wheat, barley, alfalfa and the staple crops of the Middle West are grown alongside of raisin, wine and table grapes, and orchards of peaches, prunes, pears, figs and apricots.

The farmer and owner of commercial orchards will obtain a liberal education in apple culture at the World's Fair. He will gain pointers as to the best methods of marketing apples, and of utilizing rough land for orchard purposes, and of securing clear-skinned fruit, and can see all the manifold advantage of applying the principles of modern pomology to commercial fruit culture and, futhermore, he will gain information as to the best means of protecting his orchards from the ravages of bugs and insects, for the latest discoveries made by entomologists in this line will be fully explained in lectures given by competent scientific investigators.

Governor Pardee has appointed Lester Herrick and A. Wenzellburger of San Francisco members of the State Board of Accountancy. Herrick succeeds Carl Briggs and Wenzellberger succeeds F. E. Beck.

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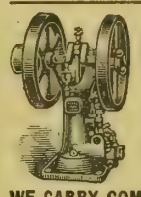
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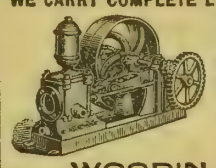
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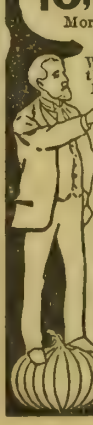
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Friday, April 1, 1904

ITEMS OF INTEREST.

Abundant Rain.—Enough rain has fallen within the past two or three weeks to make the crop situation practically secure for this year. The heavy snow in the mountains will be sufficient to carry moisture to the valleys during the summer, so that irrigation will not be necessary before the usual time when farmers resorts to artificial means to moisten their orchards and fields. All that is now needed is warm weather to bring on the crops and feed and the State will have as bounteous returns from the soil as it had last year. In the northern portion of the State too much rain has fallen to carry forward farming operations, but with abundant sunshine from this on a good crop may be expected—except in flooded districts, where the land has been submerged so long that it is feared the yield will fall below the estimates. But in general the prospect is excellent and we may look forward to a most prosperous year for business.

* * *

Civics in Public Schools.—A new plan to teach civics in the public schools of Chicago is now under consideration by the authorities of that city. The plan contemplates the establishment of a miniature government, beginning with municipal and State councils and ending with a mock congress ,the house of representatives to be elected from the grammar schools—each school to represent a State, and the senators from the high schools. All elections are to be held under the Australian ballot system. This is a long step in University extension work and will do much toward elevating the standard of intelligent citizenship and creating a deeper interest in public affairs. Contemporaneous with this new feature is a movement by the board of education of New York to aid in the enforcement of the law prohibiting the practice of spitting in public places. It is designed that boys and girls shall carry small pads of printed slips containing a note of warning of the fine for violating the ordinance forbidding anyone to spit upon the sidewalks, and when they see a man violating the law, they will hand him a slip. This, it is claimed, will better educate the children in the principles and observance of the laws of sanitation. Santitation properly has its place in civics. Onward, March!

THE CITRUS SITUATION

The present situation in the orange growers' controversy is analagous in some particulars, to the raisin growers' fight in the Fresno district. Both interests are dissatisfied and anxious for some solution of the market problem by which the losses sustained in this year's crop may be overcome in the future. In the raisin district the growers had an association, a governing board, but are unable to dispose of their product. Dissatisfied with the operations of the association, last year, many growers have refused to sign contracts for another year, and thus have put the raisin association in a position where it comes very near being demoralized. The contention between the leaders of the association has become personal in its nature, and an acrimonious discussion, with spectacular features, is going on in the newspapers, but no solution of the difficulty has so far been reached where the producers see encouragement for the future of the industry. There is no concensus of opinion and the affairs of the association are chaotic. If the association goes to pieces the growers will be reduced to the extremity of independently selling their fruit to commission men, or creating a market somewhere, at their own expense.

* * *

In Southern California an effort is being made to break down the Fruit Agency—the medium through which the orange and lemon growers find a market for their products; charges of the grossest character are made against the management, which, if true, would certainly be sufficient to call for the immediate retirement of the president and board of managers. These charges are made by Abbot Kinney, specifically against A. H. Naftzger, president of the Southern California Fruit Agency, and are, in brief, as follows: First, That although Mr. Naftzger's salary from the exchange is only a few thousand dollars a year, he has accumulated a fortune estimated at from $500,000 to $1,000,000.

The second charge formulated against Mr. Naftzger touches the question of moral responsibility, and is as follows:

"That the great bulk of Mr. Naftzger's fortune has been accumulated with the active assistance of the railroads and car lines. The principal allegations of this charge are three:

(a) "Rebates from railroads paid to him on growers' fruit shipped by him;

(b) "Share in car line profits;

(c) "Profits in the business of furnishing boxes to growers and rebates from railroads on lumber used in these boxes."

With reference to the charges of being interested in the box business, and of rebates upon railways in connection with it, Mr. Kinney says:

"That Mr. Naftzger is in the box business is generally known, and there are facts in our possesion which furnish a strong presumption of the existence of a rebate on the lumber used in these boxes—a presumption strong enough to make us feel that we could make out a case in a court of law."

The next charge preferred by Mr. Kinney is:

"That Mr. Naftzger's intimate relations with the railroads, as outlined above, made it possible for him to make a determined fight for a reduction of rates; (b) that this is established by circumstantial evidence, since, while the orange freight has quadrupled in the last few years, the rate, measured by service and minimum carload regulations, has been largely increased, although remaining the same in figures; (c) that the suit filed by Naftzger against the railroads was only a blind, intended to disguise from the growers the relations subsisting between him and the railroads, and that in proof of this he made an effort to drop the procedings, but the Interstate Commerce Commission would not permit it."

In conclusion Mr. Kinney charges:

"That Mr. Naftzger, knowing the Earl Fruit Company is owned by the Armour car lines, formed an alliance with it in behalf of the exchange.

"That results show Mr. Naftzger is incompetent to handle the marketing business."

* * *

In reply to all these allegations Mr. Naftzger enters a general denial in the following characteristic language:

To Abbot Kinney.—I am charged with having amassed a fortune, first, by rebates paid to me on growers' fruit shipped by me. My answer is: The statement is false in every particular. Second, I am charged with being "engaged in the business of selling boxes to growers, and therefore cannot protect their interests in this regard." Answer: I never had a dollar of interest in any box or lumber business in my life, and never received a cent of profit therefrom, directly or indirectly, in any manner whatever.

Third—I am charged with having "tried to drop the pending proceedings of the Southern California Fruit Exchange against the railroads and car lines." My answer: The charge is false in whole and in part, no such attempt ever having been made by me at any time nor place.

Another charge is in regard to my relations to H. M. McIntosh, of Chicago. This matter was explained by me under oath in taking testimony in the case before the Interstate Commerce Commission. It is too long to go into here. The records show for themselves.

Another charge is with reference to the Earl Fruit Company and its relation to the Armour car line. I do not know whether Armour & Co. own the Earl Fruit Company or not. I do know that Armour & Co. and the Armour car lines have no influence whatever in the operations of the California Fruit Agency.

You also say: "On the strength of these charges, Abbot Kinney calls upon his fellow-members of the fruit exchange for an investigation of both Naftzger and the exchange."

I have no doubt that every facility will be offered by the board of directors to Mr. Kinney if he is a member of the exchange, or to any other member of the exchange for the most searching investigation in relation to all of these charges, which investigation I should be extremely glad to have begun immediately.

Meantime I demand that the author of the charges make public his proof in support of them, as he has the charges themselves, or stand before the public convicted as an assassin of character and a coward. Very truly yours, A. H. Naftzger.

* * *

The latest phase of the controversy is that the whole matter is to be taken into the Federal court by Kinney and the affairs of the agency subjected to thorough investigation. To this course Mr. Naftzger says he does not object, for he will then be given the opportunity to disclose many things which he otherwise has no means of making public. The only questions which appeal to the community in this matter are these: Are the producers of oranges and lemons getting all they are entitled to from the agency, and, is the agency being managed honestly, competently and in the interest of the citrus growers. Abbott Kinney, while he is madly attacking the men and methods of the California Fruit Agency, seeking to disrupt the association, does not offer any remedy for existing bad conditions.

Why don't he?

Why don't some one who is "kicking," as Scipio Craig says in an editorial published in another column, offer a better solution of the marketing proposition than is put forward by the Agency. The grower is ripe for such a plan. Every honest man in the State would welcome a feasible scheme to overcome the difficulties in the way of the market proposition.

The Cultivator stands just where the grower stands, desirous to know the best plan to get the most money possible out of the orange and lemon crop of California. In personal controversy it has no interest whatever. But each member of the agency is asking today in anxious voice, "What is best to be done?" The Cultivator says, do nothing until the charges promulgated by Mr. Kinney are proven true, stand pat on the co-operative principle. Do not become panicky and fly off to join some undeveloped scheme, the outcome of which no man can foretell, but think, reason and wait, for time will disclose the truth or falsity of all these allegations. If they are proven true in whole or in part, then it is time to act. If not proven true the integrity of the association is secure. We may say once again to both the raisin growers and the citrus growers, stand pat on the co-operative principle, for nothing is to be gained by disruption. There is no possible benefit to come from this "tempest in the teapot;" it may disclose officially the causes which have led to the demoralization of the fruit market. It may show wherein errors of management exist; if so the good to be derived will be the satisfaction of this knowledge to the producer of citrus fruit and the silencing of agitators for some time to come. In the mean time, hold fast to that which is good and beware of those who would destroy—but not build up.

* * *

In reply to enquiries made of Mr. Naftzger as to his attitude on the contention, the following letter is handed us by Mr. Naftzger:

"Answering your inquiry as to my attitude regarding charges made against me by the Saturday Post ,and generally attributed to Mr. Abbot Kinney, I have to say that as my denial of the truth of the charges has been already published, and as Mr. Kinney has demanded an investigation upon the part of the Exchange, which I have every reason to believe will be accorded him, pending such investigation, I do not care to discuss the charges in detail.

The author of these charges will no doubt pursue the course usually taken by parties who give out sensational and unfounded reflections upon other people, namely, to make other charges and insinuations to divert the attention of the public from the original ones, which they are not able to sustain.

Putting it plainly, other lies will have to be resorted to to avoid the necessity of admitting that the first charges were falsehoods.

You ask me what I think of the general situation, and I am pleased to say that the market conditions are showing decided signs of improvement, although, up to this date, the weather in the East is still very much unsettled.

Nobody regrets more than we do the misfortunes we have had to deal with during the last few months, but I have the greatest confidence that when the growers connected with the Agency have familiarized themselves with the facts, they will believe that we have done the best possible to do under the circumstances.

One of the best evidences that we have not been asleep is the fact that every disappointed independent operator in this region is "hollering" at the top of his voice against the Agency. So far not a single case of "kick" against us has come to my notice where the animus of the "kicker" was not easily discoverable. As, for instance, in a Los Angeles morning paper of March 30th, a fruit broker makes complaint against the Agency and casts reflections particularly against Mr. D. B. Campbell, our general eastern agent. This identical broker made application to the California Fruit Agency for a position as eastern agent, and particularly desired to be an assistant to Mr. Campbell, and urged his personal friendship for Mr. Campbell as one of the arguments in his favor.

I do not particularly deprecate these discussions, because the sober second thought of the people is almost sure to be right, and after all of these sore and disgruntled speculators have exhausted themselves in their noisy complaints against the California Fruit Agency, the orange growers will weigh the matter fully and carefully and decide for themselves. I am frequently asked why so many attacks upon the Fruit Agency? As already indicated, most of them are from parties who have lost their jobs, or parties with some personal grievance of some character. When one goes gunning with a blunderbuss, he aims at the biggest thing in sight. All I ask of the growers connected with the California Fruit Agency, is investigate; calmly weigh all the facts; do not be misled by anybody's personal grievances. Nobody will be hurt by the truth, and nobody should decide the case until he knows the truth.—A. H. Naftzger."

NOT AT HAND.

Editor Cultivator: I saw something in the Cultivator of January the first about more irrigation works to be constructed on the Gunnison river, Colorado. Would you please give me information about that country and on what terms any one could get land.—Clarance Hooker.

The Cultivator has no data at hand covering the enquiry. If Mr. Hooker will address the Water and Forestry Association of California at San Francisco, possibly the desired information may be obtained.

CAN NOT SUPPLY BACK NUMBERS.

The Cultivator can not undertake to supply back numbers. The regular weekly edition now is between ten and eleven thousand. The long list of new subscribers takes all the papers, as a rule, there are left after mailing the regular edition.

Judge Wellborn's Decision.—As this paper had hoped he might do, Judge Wellborn, of the United States District Court, has decided against the Dustless Roads corporation, that recently brought suits against several California counties using crude oil in building roads. The point on which the court especially held is that the use of oil for sprinkling purposes has become a public necessity and can not be covered by a patent. This doctrine is founded on the common sense rule that no commodity which becomes a public necessity is subject to private patent. It is not only a just rule in itself, but one, were the reverse to obtain, would work untold misfortune on community at large.

Judge Wellborn's decision will stand the test of appeal to the Supreme Court, for the reasoning and conclusions are sound in law and in fact.

* * *

The Two Pacifics.—America's opportunity in the East is the subject of a comprehensive article in the Booklovers' Magazine for the current month. The United States is confronted by a problem as well as by opportunity—that of reaching for the trade of the Orient, and by energetic and diplomatic scheming to secure a grasp on the trade of the Far East as to thwart the plan of Russia in her determination to become the first power in the world. The article is highly entertaining from a literary point and interesting from an American point of view.

"THE ORANGE SITUATION."

We quote from the Citrograph of Redlands an article on the "Orange Situation" which is so pertinent to the present situation as in the main to express the sentiment of the Cultivator on the tempest raised over the marketing of the late orange crop. The orange grower whom the editor quotes, as well as the exerpt of Scipio Craig's editorial, strike the "meat in the cocoanut" exactly, and say about all that can be said at the present time on this interesting topic. The entire article is well worth careful reading by every orange grower in Southern California. The article is as follows:

"In conversation with a gentleman who is thoroughly conversant with the whole orange business for a good many years only a few days ago, he expressed himself on the orange situation after this fashion."

"There seems to be a concerted action on the part of those not connected with the California Fruit Agency to injure the organization as much as possible. Let us, before giving credence to their statements, consider who the detractors are and what is probably their motive. It is hardly to be expected that a New York receiver of oranges, who has made a large profit in years past through his fat commission charges on goods sold at auction, would be very enthusiastic over an organization that sells oranges at cost in auction, or for a commission that amounts to one-third of his regular charge. Neither is it to be wondered at that a grower has written a somewhat lengthy article for a growers' paper criticizing the Agency when one learns that the writer is a relative of an orange broker, who is trying to operate outside the Agency.

"What has been the policy of this broker in years past—what is the firm's name that has advertised—"Buyers' Broker"—thus showing whose interest he was working for—who has been sending out bear circulars for years, always predicting a declining market? Are these men more interested in the welfare of California orange growers than are the men who formed the California Fruit Agency, believing that something had to be done to prevent disaster—believing that organization and system were better than haphazard shipping? Now let us be sane and all work together for the general good. If there are improvements that can be made in the marketing system, urge them, if necessary, in mass meetings or through the press, and the Agency, which, mind you, is made up largely of growers, and those vitally interested in the industry, will undoubtedly be only too glad to welcome good suggestions. We can help ourselves and the orange industry a good deal more by standing together and meeting difficulties as they arise, than we can by finding fault with the entire organization and all those connected therewith and using our influence to help the outsiders, who you notice have no remedy to offer, but simply criticize with the hope of getting some disaffected growers' fruit to handle on commission.

If system and organization, thus enabling the proper distribution of the fruit, are not better for all of us that utter lack of these same things, the orange industry is in a class by itself."

"That," says Mr. Craig, "expresses the situation exactly," and concluding his especially strong editorial, makes these telling and, as we think, pertinent suggestions:

"As to the present state of the orange market, it looks as if the worst was over. The phenomenally frigid weather of the east has about disappeared. Markets are resuming their normal activity. Fruit is moving. The glut is disappearing. Prices are advancing. There will be no phenomenally high prices, because the season for small fruits will soon be on, but the remainder of the crop will bring some return to the grower.

What is to be done? First and foremost, stick to the association. Stick tighter and harder than ever. If you think there have been mistakes in the methods of the Fruit Agency, say so. But, in the name of all that leads to prosperity, don't content yourself with merely kicking. POINT OUT THE PROPER REMEDY. Any fool can kick. The wise man seeks out the remedy for the evils that exist and points out the road that leads from disaster straight to the haven of plenty. * * *

To conclude: Stick to the Citrus Union and the Fruit Exchange and the Fruit Agency. Point out where methods are wrong, and also point out the remedy for the evils of the present plan. If you merely kick and withdraw from the Agency you break up the Agency and blindly throw yourself into the arms of the commission man. And some of us growers of a quarter of a century's standing have a shivering, horrible nightmare memory of what that means."

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A Citrus Poem in Prose

Many of our patrons all over the world have declared our monograph, "The Yeas and Nays of Citrus Culture," with its color scheme and sumptuous illustrations to be a poem in prose on the delights of orange culture in Southern California. In a measure this is true, but it is much more, being in fact a practical treatise on the whole question of orange and lemon growing along commercial lines. If you will write us, mentioning the probable number of trees you will want and mention this advertisement, we shall be pleased to mail you a copy in English or Spanish. Correspondence a pleasure.

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R. M. TEAGUE, SAN DIMAS, CAL., U. S. A.

C. H. SESSIONS, ASSOCIATE EDITOR

SOME JERSEY RECORDS.

Editor of California Cultivator—I send you herewith some of the records made in the Lemonita Herd during the past year by pure-blood and grade Jerseys. These records may be of interest to your readers and I trust that other breeders can be stirred up to keep similar records and send them in for publication. It may seem to some that the Lemonita Herd has received more notice from the Cultivator than its share, but this is, I am sure, not the fault of the Cultivator, which I believe is glad to publish any items about the buying and selling of registered stock, the records made by the cows, and other items of interest about stock of all breeds. It is the breeders' own fault if they do not avail themselves of this opportunity, held open to them by the Cultivator, to show that they are alive and doing something. No better way could be found to show the public how much interest in Jerseys is really taken by those who are breeding them, and no better advertisement for the breed in general and for the herd in particular can be found than in giving publicity to any records that may be made. I hope, therefore, that this letter will stir up breeders of Jerseys as well as owners of cows of other breeds, of grades, and of family cows to send in records of milk or of butter for any period (the longer the better).

In our herd, the following records were completed within the last year. Winksette's Princess, full-blood, 8503 lbs. of milk and 547.37 lbs. of estimated butter, 85% fat, in 365 days.

Vela Hastings, 5313 lbs. milk and 376 lbs. estimated butter in 278 days; an off year for her due to mismanagement and not her fault.

Vela's Maggie, full-blood, heifer with second calf, 4124 lbs. of milk and 259.21 lbs. estimated butter in 206 days (sold before milking period was completed).

Mollie, grade, gave from three tests in nine months 6730 lbs. of milk and 404 lbs. of estimated butter, milking as high as 44 lbs. in a day.

Marengo, grade heifer out of Mollie, gave with first calf, as a two-year-old, 7049 lbs. of milk and 455 lbs. of estimated butter in 365 days. She was giving 15 lbs. daily after a year's milking, and with her second calf is giving four gallons a day testing 5.8.

Judy, grade, gave 9686 lbs. of milk and 474.82 lbs. of estimated butter in 365 days.

Carmencita, grade, daughter of Judy, gave at two years old with first calf, 4098 lbs. of milk and 234 lbs. of butter in 280 days. She is doing 20% better this year with second calf.

From this it will be seen that most of our cows in milk have been grades, and very good grades at that. We have some promising young full-blood heifers freshing now, however, and look forward to the day when every animal in our herd is full-blood Jersey, and a good one; in fact no Jersey will be retained that cannot make 350 lbs. of butter yearly, when matured.

Very truly yours,
C. W. Leffingwell, Jr.

TREATMENT FOR MILK FEVER.

The following letter received by C. S. Burgess, of Riverside, on treatment for milk fever, will be of interest to anyone having an animal sick from this dangerous disease:

C. S. Burgess, Riverside—"In the California Cultivator, of June 11th, 1903, I read an article on the treatment of milk fever, written by yourself. A short time thereafter, one of my neighbors had a cow down with milk fever, and a veterinary surgeon said she would be dead in one hour. I concluded to try your treatment on the cow, and as the amount of strychnine necessary for a dose was not mentioned, I sought the advise of a physician and used the amount prescribed by him.

In twelve hours the cow was on her feet and in two weeks, was giving 17 quarts of milk per day."—S. L. O.

STAY WITH THE HOG.

Some feeders of hogs in California are discouraged at the apparently indifferent results received from raising hogs for market. They claim hogs do not pay. This may be true in a season like the one just closing, when feed has been so high—unusually high for California at this time of year—but on general principles it is well to remember the advice given by Max Blue in the Stockman and Farmer, "stay with the hog and he will stay with you." Packers have made a great effort to force down the price of hogs, but for all that, hogs are a safe market for our grain. We can market our grain, generally, at better figures by feeding to hogs than in any other way, not always, of course, but as a general rule. The hog, when fed alfalfa and barley soon finishes into a profitable commodity and as the period of his growth is brief he soon turns a crop into money for the farmer, sooner than grain stored for a prospective market.

RAPE FOR PIGS.

Editor Cultivator: Will you kindly give me information thruogh your paper on growing and feeding rape to young hogs and pigs, as green feed, to take the place of alfalfa. Soil is light. Water for irrigation plenty.—F. J. F., Colton.

Rape is prized as an excellent crop for clearing land from weeds. For this purpose is should be sown in drills two feet apart, using from one to two pounds of seed per acre. Several cultivations and one or two hoeings are necessary on foul land. Rape requires a good soil and responds to liberal manuring. A soil which affords a good crop of corn, potatoes or turnips is generally suited to rape. It prefers a cool climate. The best variety for common use is the Dwarf Essex. The rape can be either pulled and fed, or grazed, in the latter case movable pens are some times used. It will make a second growth after being pastured, and with a little grain makes a very good pig feed.—John Isaac.

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A few Guernsey bull calves from fine dams and sire. Very choice breeding. Price according to quality.
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The Highest-Scoring Butter in the Farm Dairy Class was also made from cream separated by the U. S. Separator, and
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California Jersey Interests

The following is an outline of one of the most interesting and instructive addresses recently made before the Jersey Breeders' Association of Southern California. It was presented by Mr. E. W. Major, instructor of Animal Industry, University of California, who spoke in answer to the question, "What can be done to further the Jersey interests in this State?"

Mr. Major pointed out that the first and leading essential is to improve the quality and productiveness of the stock employed. There can scarcely be too great a sacrifice of common and unprofitable animals to deter intelligent owners from making a radical change in such improvement. The selling of even a large number of animals, even at low prices, if they cannot prove their worth after fair and efficient tests, should not be regarded in any sense a loss. It is usually a business gain and stands on the proper side of the profit and loss account.

Another object of steady endeavor is the production of uniformity in dairy type. This is one of the land marks of advanced and successful breeding, and will doubtless have an increasingly dominant effect in the future. In the East high prices are invariably associated with high types.

During a recent visit to the Island of Jersey, Mr. Major was invited to assist the committee that periodically visits all herds on the island, and passes upon the merits or demerits of their annual production. He stated that if the committee, upon such inspection, rejects any male which, by the way, must be shown with his dam), such animal is thereafter debarred from registration in the Jersey Herd Book. Females thus rejected may be reserved with a view, upon sufficient improvement by crossing, feeding and care, to future entry as foundation stock. And, he added, no animals are eligible to registration, either in England or America, that are not recorded in the Jersey Herd Book. From these conditions arises the greatest assurance that our importations are and shall continue at all times to be, only superior animals.

Mr. Major advanced the breeding of large and vigorous animals and deprecated too young breeding as destructive of vitality, size and productiveness. The smaller animals were generally more nervous, fretful and easily "upset."

He strongly urged the members and breeders generally to test their cows often, to weigh their milk at all times and use the Babcock test once or twice monthly. The show ring is of as much value in reaching the public as it is in bringing out and emphasizing desirable qualities of the breed.

It was a matter of much moment, as touching upon type development and its neglect, that at the State fair last fall first honors in the aged bull class was won by an animal not registered by the American Jersey Cattle Club. In passing it was noted that the general exhibit of Jerseys at the fair was wholly inadequate, in most of classes, to properly represent the breed. This would doubtless prove unfortunate to the Jersey breeders of the State, and it is important that proper steps be taken in the future to make a creditable and just showing for the most meritorious dairy breed in the world.

DAIRY ANSWERS.

Editor Cultivator—I am pleased to answer questions submitted by your correspondent, viz: 1st. How to apply test for tuberculosis? To properly make the test, the temperture of the animal should be taken at intervals, not exceeding two hours, the day previous to making test to ascertain the body tempature of the animal under test. It is best to begin in the morning at 6 a. m. to take temperature and follow up each two hours during the day, making record of same. Inject tuberculin, say at 10 o'clock, p. m. of the first day. Next day, take temperature same time as day previous. If the temperature raises two degrees, according to the tuberculin test, the animal has tuberculosis.

Question No. 2. "Do you consider bran and shorts better than bran alone to feed a cow as a milk producer?" Bran alone is preferable. I feed in addition to the bran, a little (about quarter of feed) corn meal or ground barley. Of course if I was going to advise feeding grain, I should want to know what is fed as roughage. If one is feeding barley hay, a very poor hay for milk cows, I would feed bran alone, but if fed on alfalfa pasture or silage, I would add corn meal or ground barley or some of both.

Question No. 3. "Is there any remedy for a young cow that is a hard milker?" Use teat dilator, which should be washed in boiling water before using. Oil with vaseline and insert gently. Great care should be exercised so as not to injure the teats. Introduce dilator once daily, don't be in too big a hurry to right the wrong by forcing dilator in and out of the teat too often, so as to cause irritation. A little common sense is needed here. I have had cows spoiled by over-doing. By careful, cleanly work, a hard milker can in the course of a week or two be made to milk easily.—C. S. Burgess.

The value of the dairy test is well illustrated in the case of a Humboldt county breeder of Guernsey cattle, who recently sold several head of his stock from a test made of one of his cows that showed over five per cent of butter fat.

BUILDING UP THE DAIRY HERD.

By J. W. Helme.

In the year 1893, being dissatisfied with fruit growing on my forty acre farm in Adrian City, I determined to change to dairying. Having no practical knowledge of expert dairying, my first step was to post myself, and I subscribed for Hoard's Dairyman and other papers. After reading these, I determined to have a thoroughbred herd of some dairy breed, and upon the conclusion of the World's Fair test, I naturally selected the Jersey. I next subscribed for the Jersey Bulletin, and bought all the Jersey literature I could get to post up on Jersey families.

After considerable study I decided on the St. Lambert family, and especially the Matilda branch of that family. Matilda 4th, who gave 16,000 pounds of milk in one year, was to my mind the greatest Jersey cow that ever lived. I had $500 to buy stock with, and the question came up, shall I buy ten "fair" cows and have my herd in operation at once, or shall I buy one or two extra cows and breed up. My cupidity said "buy ten;" my good judgment said "buy the best at any price."

I finally purchased a granddaughter of Matilda 4th, for which I paid $300 spot cash. She was in calf to the best living bull at that time, the sire of Ida Marigold, who had just won sweepstakes at the World's Fair. She dropped me a bull calf, just what I wanted to head my new herd.

Pretty big price, you say. Well, she was the best investment I ever made. Last year, at the age of sixteen years, she dropped me a calf that I sold for $75, and gave me 7,000 pounds of milk which sold in the form of cream for over $100, and she has been doing this for each of the nine years she has been with me. She was not a phenomenal milker, but very persistent, hard to dry up, rugged and healthy. She had a pedigree in which every animal had been a star. This is what counted the most. Today every animal in my herd, twenty-five in number, are her daughters or granddaughters, and every one in milk will produce more milk and butter when mature than she.

Here is the first lesson in building up the herd.

Like produces like, but more often the likeness of an ancestor. A calf from an extra fine grade cow may

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PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.
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ALL THE GRADES OF THE LEMONITA HERD
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2. CARMENCITA, 4098 lbs. milk; 234 lbs. estimated butter in 280 days.. Three months fresh with second calf and doing nicely. Price $65.
3. MAY'S FLORA, heifer two years, a beauty, about to freshen, out of good cow by well-bred sire. Price $60.
4. Three yearlings by grandson of Canada's John Bull, out of cows with records. In calf to Sargent Fox. Price of each, $50.
5. Three heifer calves by marigold Holyoke, out of No. 1 and No. 2, and the third out of dam that gave last year 9686 lbs. milk and 475 lbs. estimated butter. Price of each, $20.
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MELIA ANN'S LAD and a YOUNG TORMENTOR BULL
The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
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"take back" to a worthless ancestor. The foundation of a dairy herd should be a great performer, with a pedigree full of great performers. Neither alone will do. We should have both. Thus, the more star performers in the pedigree, the less chance you have of drawing blanks in the offspring. I also bought another registered cow for $150 of similar breeding. With these two cows I founded my herd in March, 1894.

To review briefly: To start a dairy herd, first read the dairy papers and books, and get posted. Next, select the breed you like best, for that is the one you will be the more liable to be successful with. But it should be a dairy breed, viz.: Jersey, Guernsey, Holstein, or Ayrshire. Avoid the beef breeds for the dairy, and especially that mythical thing known as the "general purpose cow." A cow does one of two things with her feed, she puts it either on her back or in the milk pail. She cannot do both. For foundation animals, get the best. The foundation cow should be a good performer, with a pedigree of good performers behind her. The sire should have a similar pedigree and a great mother behind him.

Now, we have got a start, the process of grading up is the work of years. However good the herd is, there will always be a "poorest cow." A better one must be raised to take her place. Dairy calves should be raised on skim milk, bran, hay and pasture, feeding liberally, but not any fattening food. Breed not younger than 15 months old and not older than 21 months, varying according to the size of the heifer.

In my experience, the three months preceding the birth of the first calf is the time to make the cow. During these three months I feed all the grain they will eat up clean and plenty of roughage. The young heifer must at this time develop her calf, her udder and keep up her own growth. Never does she need as liberal a feeding as at this period, and as milk fever never occurs with first calf, there is no danger.

Having got the herd in milk, the next things necessary are scales and a Babcock test. Every cow's milk should be weighed night and morning and a record kept of the same. Get a spring balance that weigh 30 pounds; set back the dial the weight of the milk pail, make a blackboard at the barn, ruled to accommodate a week's milk record. The milker then has only to hang his milk pail on the scales and record the result on the board—not two seconds of extra work. Each week remove the record to your dairy account book. You will be surprised how the cows will vary from your estimate of them. At the end of the year many a cow that required two pails to hold her milk when flush will be found behind her more modest sister, who kept everlastingly at it.

Now you can begin to cull; discard every cow that goes dry on her own notion; while every cow should be dry six or eight weeks previous to calving, she should be forced dry. She ought to be giving at least sixteen pounds per day when you start in to dry her up. Discard the cow with short teats, she takes too much time to milk; also the cow with the dainty appetite. The profitable cow should eat everything in sight. Every year select the two most promising heifers to bring up to take the place of the two poorest cows.

Sires may be bred to their own daughters, but not to their granddaughters. A change of sire is necessary at this time. Get the very best you can buy; remember he is half the herd, and if he is only common your herd will go backward instead of forward. Never breed to anything but a thoroughbred sire, and above all, don't cross breed. Think a minute of what you are doing by cross breeding. Here stands a Jersey; for seven centuries the farmers of Jersey Island have been breeding her to produce milk and butter. Think of it! Seven centuries of brain and labor to get the blood running to milk and butter. Here stands a Short-horn, bred for a like period to produce beef. How thoughtless the farmer is, who at one fell stroke destroys the work of seven centuries. How egotistical to think that one man in a year could improve the thought and labor of centuries.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

LINE BREEDING.

"I am a new subscriber to the Cultivator and would like you to explain what difference there is between "in-breeding" and "line breeding."—Subscriber.

The subject of breeding for best results in the poultry yard is exceedingly interesting and is being developed more and more every year. not only by poultry breeders, but I believe by some of the Government Experiment stations.

Luther Burbank is trying the same sort of thing in fertilizing and crossing different kinds of fruit and is succeeding so marvelously that he is called a wizard, and is acknowledged to be the greatest benefactor to humanity of the century.

Mr. Mendel is trying the same thing and his work, mostly with peas, has led to the discovery of what is called the Mendel law in cross breeding.

* * *

But to return to poultry. There is "in-breeding" "line-breeding" "out-breeding" "crossbreeding" and no breeding at all!

Many people are afraid of "in-breeding." By this is usually meant breeding brother and sister together for generations, without the infusion of new blood. This kind of "in-breeding" is very apt to result disastrously, because in such a flock the best, biggest, and most vigorous are sent to the market and the inferior ones kept at home for breeders. unless a neighbor steps in and lends a cockerel to solve the difficulty.

For fear of the flock deteriorating many people think it absolutely necessary to have new blood, in their flock every year, and here is where the danger comes in for those who are raising thoroughbreds. If you buy a thoroughbred male of the same breed to mate with your thoroughbred females from another strain, or family, you may get one that will improve your flock, or one which will bring you disqualified birds. This getting new blood of the same fmily is called "out breeding." I know a farmer's wife, who had good thoroughbred Plymouth Rocks. She sent away and bought a first prize winner. a beautiful cockerel. She thought she would have prize winners for the next show, when to her grief, she found that all the progeny of that cockerel were disqualified birds. The cockerel did not "nick" with the hens, although they were of the same breed. This "out-breeding" was a failure. If she thought fresh blood necessary she should have bought a cockerel from the same breeder of whom she purchased her original flock, and she should have gotten one that had some of the same blood as the pullets, or if she could not do that she should have bought a good pullet and mated her to the best male and if the cockerels from that mating proved good, she could have used them the following year. "Out-breeding" as she did, is a sort of lottery; one connot be certain of the result.

"Line breeding." or breeding in line, is keeping to the same family. It is a very careful "inbreeding." When we "line breed," we simply limit the number of ancestors in a fowl's pedigree. By so doing we intensify the qualities in that fowl, for it has been established beyond doubt, that the mating of nearly related individuals, has a tendency to intensify the traits or characteristics, which they possess in common: For instance, I had a hen, a 95½ point bird, she laid 225 eggs in nine months. I mated her when I discovered her wonderful qualities to my first prize male. Four of her daughters from that mating were prize winners. The following year I mated her to her best son, and the third year to her grandson. By this last mating the offspring were 15-16 of her blood. I kept this hen strictly separate from the others and I was delighted with the result.

To illustrate what is meant by line breeding I would take a good pair or trio of the best birds procurable. Raise the young, carefully feeding for strength and vigor. The second year I would mate the father with two of the best daughters, and the best son back to the two mother hens, and use these two families as two different strains for new blood, each year selecting the best from either pen. By the best I do not mean only the handsomest. I mean among the cockerels the most vigorous, active and up to

EGGS FOR SALE
From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.
H. S. THOMPSON, 126 E. Ave. 55, Los Angeles

Golden Laced Wyandottes
Eggs of Ideal Strain
Fifteen Eggs, $1.00
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Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
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MATURED
Standard Bred
Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
S. C. W. Leghorns (Emer train)
Only Birds That Have
MOULTED
are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
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SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

BUFF COCHINS
And SILVER GRAY DORKINGS. Won 1st prizes at all California shows. Eggs, $2.00. Males to sell. Sure Hatch Incubators kept in stock for sale. Harry McIntire, 27th & D, San Diego

The West Coast Stock Food Co.
Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
WEST COAST STOCK FOOD CO.,
PASADENA, CAL.

BUFF ORPINGTONS
My birds won FIRST PEN at State Fair, San Francisco, and Seattle shows. You want stock of this kind. Eggs, $2.00, $3.00 and $5.00 per setting.
Walter Sullivan Agnew, Cal.

THE GOOD FOUR
I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to
EGGS, $1.50 PER SETTING
S. W. MORGAN, SUNNYSIDE, CAL

INDIAN RUNNER DUCKS
AND
WHITE PLYMOUTH ROCKS
Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.
Foster's Fowlery, R.D. 2, Los Angeles

Eggs for Hatching
FROM
PURE BRED WHITE LEGHORNS
$1.00 per 13—$4.00 per 100
JACOB KREGER
Route 1 - Anaheim, Cal.

Don't Feed Lice.
Fowls have too great a weight to carry to make you profit when they are infested with vermin. Lice are easily
KILLED BY FUMIGATION
You do not have to handle the fowls and they are not injured. Paint the liquid **Prussian Lice Killer** on the walls, roosts, dropping boards and floors of their houses, and the fumes that arise quickly rid them of all vermin. The fumes penetrate to every nook and corner. Not a mite can escape them and it means sure destruction to all insect pests. In cans, 50c and $1.00.
Prussian Lice Powders excel anything else in the powder line, if you prefer that method. Get either from your dealer. If he does not have them, write to us direct.
Prussian Remedy Co., St. Paul, Minn.
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EL ORO POULTRY FARM
FRESNO, CAL.
H. H. HOLLAND - Proprietor
Breeds 14 varieties of land and water fowls, including Blue Andalusians, White and Brown Leghorns, White, Buff and Barred Rocks, Black Minorcas, Silver Spangled Hamburgs Guineas, Bronze Turkeys, Pekin Ducks, Light Brahmas, Buff Cochin Bantams, Buff Orpingtons.
Settings from $1 to $3 Each, for Prize and High Bred Stock.
Place your orders at once. First come first served.

WHY SITTING HENS LEAVE THE NESTS

In nearly all cases it is because they are so pestered with lice Of course the hen does not know that the eggs may have cost you $ a setting—she leaves just the same. **Prussian Lice Powder** dusted freely on the nest and eggs once each ten days does the business Does not injure the eggs, and the little chicks will be free from lice when they come out. Should you like the liquid better, don't forget our **Prussian Lice Killer.**
"I have used Prussian Lice Killer for chickens and also for horses, and same has given entire satisfaction.—RIMOND LENTZ, Jericho, Wis.
Price 25 and 50 cents per can. Remember also our famous **Prussian Poultry Food.** If your dealer does not keep any of these, write us. We will supply you and send you our **68 page book free.**
PRUSSIAN STOCK FOOD & REMEDY COMPANY, St. Paul, Minn.
Germain Seed Co., Pacific Coast Agents, Los Angeles

standard birds, and the best layers among the pullets.

* * *

"But I am afraid of in-breeding," said a lady to me recently. "The book says change cockerels with your neighbor." I do not know from what book she was quoting, but I went to see her fowls. She had really fine stand-and bred fowls to commence with, but she had ruined the flock by trading corkerels. A friend of mine intending to purchase them asked me to look at them, but I could not recommend them, as I knew the offspring would not be desirable.

Many persons wishing to purchase fowls from me (when I was in the business) would say "can you sell me two or four hens and a cockerel not related?" I replied, that I could and would if they wished. as I had ten separate pens, but if they asked me to mate for the best results, I would give them hens from my best layers, mated to a cockerel, that was partly related to them, for I knew then that the offspring would be of as good quality as the parents. To know this takes some years of "close observation and close selection," which is J. E. Taylor's rule for "line breeding."

When I wanted new blood of late years, I would get a setting of eggs from the best breeder I knew. Select the two best pullets from this brood, if they were up to standard, mate them with one of my own males and await the results. Some years they would be quite satisfactory, if otherwise they were consigned to the table, and proved delicious eating. When the result was good I had fine young ones and new blood which I knew would mate with mine and not deteriorate any fowls in regard to looks and standard points, but I could not tell for two years how the laying quality of the offspring might be affected. Here is a place where "close observation" comes in. The pullets were "trap nested" for a season and then, if they came up to my ideal, I had the satisfaction of knowing I had mde another success. This getting in new blood of the same breeds is called "out breeding."

* * *

Crossing, crrossbreeding or outcrossing, is introducing blood from a distinctly different breed. The first cross will usually give better layers, and occasionally produce really good birds, but the progeny of these will be mongrels unless a thoroughbred male is introduced each year.

For example, I know a farmer's daughter in New York who wished to improve her flock of mongrels of all shapes and colors. She bought a "line bred" Plymouth Rock cockerel, and the following summer she found that nearly all the young stock had Plymouth Rock bearings, even the offspring of the Cochin hens had barred feathers on their shanks. The following year she bought again from the same breeder another vigorous young Plymouth Rock, and by the end of that season she had, apparently, a flock of fine Plymouth Rocks I say apparently because if she had mated them together she would have had mongrels the following season, but as it was she worked the mongrel old stock off and had fine looking Plymouth Rocks that proved excellent layers.

A line-bred cockerel has greater prepotency than one indefinitely bred, that is, he will reproduce himself, or leave his mark strongly upon his progeny. This was the case with my New York friend's birds. Her's were cross-bred or what farmers would call graded Plymouth Rocks.

The male bird if he comes from a line-bred family, will be more prepotent than the female. He will impress his qualities or characteristics, good or bad, on his progeny more than a male that is not "line-bred." and the male is considered half the pen. His part is the germ, the seed from which will grow the chick. For this reason, choose the good, strong. vigorous cockerel—the active stirring—to head your pen, and take a thoroughbred instead of a mongrel, because in this way you will build up a flock of fine birds.

Line-breeding is keeping in the same family for years, each year choosing the most vigorous of both males and females to continue the succession. Line breeding is very careful and closely selected in-breeding.

Out-breeding is introducing new blood, but of the same breed.

Cross-breeding or out crossing is introducing distinctly new blood of an entirely different breed.

* * *

Water Glass—Editor Cultivator—In a recent issue of the Cultivator there is a formula for preserving eggs by water glass or silicate of soda, which is said to cost 75 cents per gallon. The druggists here ask from three to four dollar a gallon, and claim it is stronger than that furnished in Los Angeles at 75 cents and should be used twenty parts water instead of six parts as in the formula. Please answer in the columns of the Cultivator which is correct.—F. C., Los Gatos, Cal.

The silicate of soda or water glass, I bought at the Owl drug store, in Los Angeles a year ago and paid 75 cents for a gallon. I furnished the tin gallon can to hold it. I have inquired at the Owl drug store, and they say that this year it costs $1.25 a gallon and that it can be purchased at their store in San Francisco for the same price. They also say that the strength of it is always the same. They call it liquid glass.

THE INDUSTRIOUS HEN.

In one year a hen eats food equal to sixteen times her weight and lays eggs equal to about six times her weight. Her food costs about one cent a pound, while her eggs bring about sixteen cents. An average hen will produce about 240 eggs a year, her food costs about 80 cents and her eggs will sell for two cents each—or $4.80. Farm hens that are allowed to run at large cost the farmer from 47 to 83 cents a year for food. The first year is the most profitable age for hens.

WinnerBuffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever heldwest of the Missouri·

WHITE LEGHORNS

Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."

Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from famous egg-producing strains of large eggs.

Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect. None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.

To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders, Selected not only for their Show qualities, but more essentially for their laying qualities of large eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize pullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and first prize hen, Snow Queen, at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be found.

"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger eggs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Such strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.

W. W. HOWARD 3024 E. Main St. Los Angeles, Cal.

Emery's Pure Meat Meal

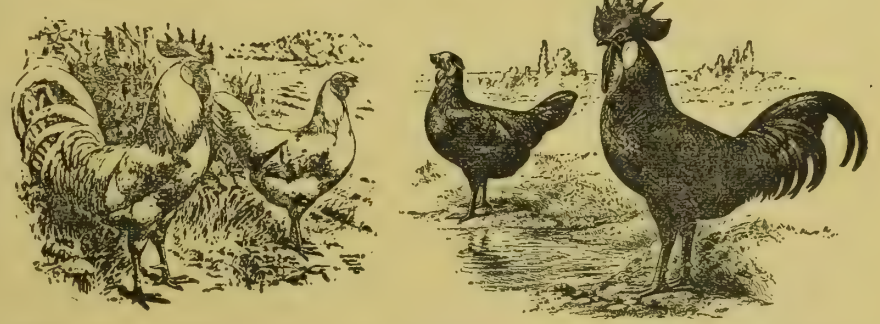
Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks



Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

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The Jubilee illustrates the highest type in Incubator construction; hot-water pipe system; heavy co per boilers; perfect ventilation; new and positive system for control of moisture; entirely self-regulating—in all points the Jubilee leads. We have brooders to match the incubators—perfect and practical.

Send for Jubilee catalogue No. 30. It will explain all you want to know.

JUBILEE INCUBATOR CO. OAKLAND, CAL.

WHEN WRITING TO ADVERTISERS PLEASE MENTION CULTIVATOR

VARIETY OF FOOD.

Alfalfa hay is excellent for laying hens. It is rich in the chemical qualities needed in producing eggs. It is also much cheaper than to feed them altogether on grain. Give them grain at night, but in the morning, take a pail two-thirds full of fine cut alfalfa and cover with boiling water, cover closely and let it steam until alfalfa is swelled, then add enough meal, ground oats or bran to make a crumbly mass. Feed warm and supply them also with gravel, oyster shells and scraps from the table, with an occasional meal of boiled potatoes, and you will find a good result.

Of course, it costs more to feed hens that are yarded, but we can soon learn just what they need, so that there is no waste, and they may be made to produce eggs at a profit, while those that roam over the fields seldom lay; and though they cost us but little, they bring us no returns.

We think it better to devote a little time to the hens and get a profit from them, rather than have them roam the fields and give no profit.

POULTRY ON THE FARM.

The Cultivator appreciates words of commendation for the various breeds of poultry from the various breeders and admirers. When one breed does best with one, another materially different does far better with another. So, when an enthusiastic breeder has the "best on earth" he is perfectly justified in saying so out in meetin'. The biggest poultry meeting ever held in California is in the columns of the Cultivator, so it's a grand place to speak up so folks, ten thousand or more of them, will hear.

Mr. Harrison, of the Lake Avenue Poultry yards, Pasadena, has several breeds, but when he looks on his R. I. Reds and Brown Leghorns, his eye lights up with a little more admiration. Here is what he says. First you will note he has something to say about the Cultivator:

"A card in the Cultivator brings inquiries from all parts of the State concerning the different varieties of poultry, showing a growing interest in the improvement of the farm stock and that farmers are awakening to the fact that poultry is the surest crop for a dry or partially dry year.

That very excellent general purpose fowl, the White Plymouth Rock, has been so ably described by the poultry editor that no further mention seems necessary.

Rhode Island Reds are comparatively new, and, like all other new breeds, have suffered from extravagant claims made by breeders. Their chief points of excellence appear to be in their extreme hardiness, early maturing and being strong layers of large sized eggs. They dress as well as the Plymouth Rock and this alone is sufficient recommendation as to their table qualities. The standard weights of the Rhode Island Red Club call for birds about a pound lighter than the standard bred Plymouth Rock. This would means birds weighing one or two pounds heavier than the Rocks found on the average California farm. They are good setters and mothers, without being persistently broody for nine months in the year. They undoubtedly inherited their stamina and hardiness from their Cochin China ancestors, without inheriting an over developed tendency to broodiness. The Rhode Island Reds can safely be classed as a valuable addition to the poultry yards of the State.

The profit of the farmer is largely in the egg basket. The Leghorns are the egg producers, be they brown, buff, black or white. Authorities claim no particular heavy egg laying qualities for any particular color, and the point the farmer's wife should have in mind is to procure strong, healthy, large sized stock from a heavy laying strain. Egg production is a matter of breeding and feeding, while color is a matter of fancy, our preference being the rich shades of red and brown.

Brown Leghorns, as we know them, if properly reared, housed and fed will have laid eighty eggs per bird by the day they are one year old. Ours have done it, and furthermore have laid continuously through the fall and winter months, when the market price of eggs is the highest. In California Leghorns can be successfully hatched any month in the year, though from April 1 to June 15 will be found to be the most profitable time for incubation; but even later hatched birds thrive and grow rapidly if green feed can be obtained.

The popular impression that a ten foot fence is necessary to yard a Leghorn is erroneous. By clipping the flight feathers of one wing when the pullet is four months old the flying habit is cured nearly every time and the bird soon loses its soaring instinct. Surplus cockerels should be marketed when they obtain two pounds weight and then will afford a good profit, even at the present grain prices.

DUCK FEEDING.

Mr. James Hague: "I notice in the California Cultivator, that you will through that valuable paper give information on duck growing.

I am most discouraged with my ducks, they will not give me any eggs, though they appear in good condition.

I feed kaffir corn, wheat, wheat-bran, dried blood and plenty of grass cut up and mixed with corn meal and bran.

Answer: This certainly is good food, but, my dear sir, it is too good. You will never get any eggs, but will be poorer in pocket. If you will feed a mixture of two parts wheat bran, one part corn meal, with plenty of boiled vegetables thrown in, and for every dozen ducks, put in a large coffee cup full of coarse sand, you will certainly get eggs. Feed all they will eat up clean, twice a day, with a plentiful supply of green food at noon. You can give them blood meal three times a week, but be sure and cut out the corn meal, when you feed the blood meal. Be sure and have a box of shells and sand before them at all times, this is very important. You did not state how old your ducks were. If they are six months old you certainly should be getting eggs under proper conditions. Have one drake to every four ducks. When asking for any information concerning water fowls, try and give more details, such as age, how mated, etc. This applies to all the Cultivator family.—James Hague, Oakland, Cal.

$5.00 PER 100
BARRED ROCK EGGS
Choice mating, $1.50 per 13
BUFF LEGHORN EGGS
$1.50 per 13. Prize winning stock
LINDGREN & SONS KINGSBURG, CAL.

THE NATURAL HEN INCUBATORS AND BROODERS
Points of Merit That Are Causing Such Large Sales of These Machines All Over the U. S.:

A continual circulation of pure, fresh, warmed, moist air in every part. Chicks can regulate their own wants as to heat and air by having a range of from 60 to 100 degrees to go into. Chicks will not crowd, as they have warm material to place their backs against similar to the old mother hen. No chilling or overheating. Lamp fumes or gasses entirely separated from chicks and fresh air. Brooder can be heated up in fifteen minutes in any season. The most economical on oil of anything in the shape of a brooder. One filling of lamp—3 quarts of oil—will last from five to seven days in mild weather. The incubator is guaranteed to hatch chicks as strong as the hen can. The only brooder that has and is capable of raising 100 per cent, not only once, but time after time. Our catalogue and book combined will explain more of the merits that have made these machines famous. Send for it. Mailed on receipt of 10 cents in stamps. It has helped thousands to success that have previously failed with other makes.

F. S. LOW & CO.
PETALUMA CALIFORNIA

Barred Plymouth Rock Eggs for Hatching
1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15
MRS. Z. A. WOLLAM,
W. CENTRAL AVE. RIVERSIDE, CAL.

BARRED PLYMOUTH ROCKS
THOMPSON'S RINGLET STRAIN
Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.
A. A. Clapp - Alhambra, Cal.

Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
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SPECIAL PRICES ON TON LOTS.

A RELIABLE BALANCED RATION

Not a mixture which some one guessed would be good, but one in which scientific investigation and careful study has developed the best combination for laying hens and growing chicks.

That's what the Poultryman needs. That's what the intelligent and careful Poultryman demands, for he knows that is necessary for results. That's what the

MIDLAND POULTRY FEED

is, and each week pleased patrons are proving this to their own satisfaction. They also tell their neighbors, so that all over the United States the demand increases. The Pacific Coaat is proving a good buyer, and the trade has increased from the start. Why? Ask the Poultryman.

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IT CAN BE BOUGHT IN CARLOADS OR TWO-BIT LOTS OF THE FOLLOWING;

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The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART V.

GEO. W. GASTON.

Mr. Gaston owns 2800 laying hens which have been fed on Coulson's Egg Food for the past 2 years. He will hatch about 8,000 chicks this year, which will also be fed on Coulson's Chick Food. Altogether Mr. Gaston uses about 800 sacks a year of Coulson's Poultry Foods.

This is the fifth chapter of our story describing a visit to some of the world's largest poultry farms. In this part we will tell you a little about Geo. W. Gaston's poultry farm.

Mr. Gaston is one of the pioneers in the poultry business, having been in the poultry and dairy business for the past 20 years. This is another place where the dairy and poultry business is combined. They milk about 50 cows now, although at times they have had considerable more than that, but for the last few years more attention has been paid to poultry than to the dairy part. There are about 250 acres in this poultry and dairy farm, although the Gaston home originally comprised about 1,000 acres, but is now divided off into four farms with several thousand hens on each place, there being nearly 10,000 laying hens on the four places.

Mr. Geo. Gaston is very enterprising and progressive. Mr. Gaston makes all his own incubators (see illustration.) He has made one large incubator that holds 1250 eggs. He also has two 500-egg machines and three 360-egg machines; these six machines having a capacity of over 3,000 eggs and they hatch out on an average of over 90 per cent. All these machines are run by gasoline and all are connected with the same tank. All machines are filled at once and all hatch out at the same time.

At the time we were at Mr. Gaston's place these machines had already hatched out a brood of about 2,800 chicks a few days before and they were all filled again and he would fill them the third time this spring, so that he would hatch out about 8,000 chicks or over this season. (All the chicks will be raised on Coulson's Chick Food.) After seeing all these incubators filled with eggs and being told that they had just hatched out 2,800 a couple of days before, we were anxious to see the little fellows. So Mr. Gaston took us to the brooder house. Now, all these chicks were kept in one mammoth brooder house and all under one roof.

The interior was divided off into 15 apartments and 200 chicks were put in each apartment. This brooder house was also invented and made by Mr. Gaston and his assistants, and like the incubators, all these apartments were heated by gasoline with pipes all connected with the same tank.

Mr. Gaston raised all these chicks on Coulson's Chick Food and Mr. Gaston's incubators and Coulson's Chick Food seemed to be a good combination, for although these chicks were only about 3 days old, they were as spry and lively as could be and they were all out scratching and eating Coulson's Chick Food. Mr. Gaston will use 3 or 4 tons of Coulson's Chick Food this season to feed those 8,000 chicks he is hatching out. As we said before, Mr. Gaston is of the progressive class and prefers to keep up-to-date and abreast of the times. He was one of the first to see the value in feeding Coulson's Balanced Rations to his poultry and he has been feeding Coulson's Balanced Rations to his laying hens for the last 2 years and his hens are always in the best condition of health, and the death rate is reduced to a minimum and the egg production is increased to the maximum. From 2,800 hens Mr. Gaston now is getting over 1700 eggs a day.

Now, there are many poultrymen who are slow to see the value of feeding Coulson's Balanced Ration Egg Food or the science in poultry feeding. We can only pity such as these in their Rip-Van-Winkle slumbers. They are lagging behind the age. They will be fossilized if they do not wake up. There are some poultrymen that even think that if they feed Coulson's Egg Food that the hens will lay so much that they will die in the next year. They should remember that the more one exercises his muscles the stronger he will become and the more we make hens lay the more they will lay so long as we continue to feed the right kind of food.

Not only will the hens lay the first two years, but if they have been raised on Coulson's foods and fed on Coulson's Balanced Rations right along, they will be good layers until they are 4 or 5 years old. Mr. Gaston has been feeding Coulson's Egg Food for about two years and his hens are now in prime of health and producing 1,700 eggs a day from 2,800 hens.

Now, again there are poultrymen who think that Coulson's Egg Food is expensive feeding. Mr. Geo. Gaston finds it cheaper than other feeds, for being a richer feed, it takes less of it. Only 200 pounds of Coulson's Egg Food is all 2,800 hens will eat in one day (except what wheat is fed at night). If common feed like shorts and middlings was fed it would take nearly 300 pounds a day. So a person who stops and thinks a little can readily see that they can feed their hens on Coulson's Egg Food or the very best of feed and the feed bill will not amount to much more at the end of the year and perhaps not as much as it would if they continued to feed it in the old fashioned way. Besides, by feeding good feed, poultry is kept in better, healthier condition, the death loss is smaller during the year and they produce much more eggs and the profit for the year is greatly increased.

The man who thinks enough of his poultry to buy first-class food for them (Coulson's Egg Food) is the man who generally makes the most profit out of them, and whose place shows prosperity.

Mr. Gaston uses about 70 sacks a month of Coulson's Foods or about 800 sacks a year. As we said before. Mr. Gaston makes all his own incubators and brooders, but he buys Coulson's balanced rations for poultry because he can buy Coulson's poultry food all ready mixed much cheaper than he could buy the ingredients separately. Because the A. R. Coulson Co. is purchasing feed for about Five Millions of chickens and this gives them a purchasing power so that they can purchase the article needed in immense quantities at far less prices than any poultryman could, no matter how many hens he has.

All the large poultry farmers are finding that they can save money by buying Coulson's feeds. The A. R. Coulson Co. is now running night and day and nearly 400 sacks of Coulson's food are prepared every day. One force of men goes to work at 7 and works until 6 and the night force starts at 6 and works until 6 the next morning.

Two hundred stores in California sell Coulson's Egg Food and Coulson's Chick Food. Price of Coulson's Egg Food, $34 a ton at Petaluma. Price of Chick Food $2.20 a sack at Petaluma. Price in other towns will be more according to freight. Ask your feed dealer for it.

Home-made Incubators G. W. Gaston's place.
Three 360-egg machines and one 500 egg machine shown here. On the other side in this house there is one 1250-egg and one 600-egg machine.
Mr. Gaston makes all his own incubators and all the chicks are fed on Coulson's Chick Food.

This is an incubator that Geo. W. Gaston built. It holds 1,250 eggs and gives 90 per cent hatches. There are five more incubators in this house and all are run by gasoline and all are connected with the same pipes.
Mr. Gaston makes his own incubators and hatches out nearly 3,000 chicks at a time. Chicks are raised on Coulson's Chick Food.

Residence of Geo. W. Gaston.

One day's gather. Results from feeding Coulson's Egg Food. The man on the wagon is the one that takes care of the 2,800 laying hens of Geo. Gaston's place About 6:30 in the morning he takes from the feed house 2¼ sacks of Coulson's Balanced Ration Egg Food and mixes it with skim milk, then he starts out and feeds it to the laying hens leaving several gallons at each colony. About 3 o'clock in the afternoon he starts out to gather the eggs and he gets back about 6 o'clock with about 1,700 eggs or more

CLEANLINESS ALL THE TIME.

It may look like harping too much on the same string to be constantly talking "cleanliness' but it should not be forgotten that cleanliness ranks next to Godliness in most things and it is one of the bed-rocks of success and prosperity in the poultry house. Farmers who build hen houses should build them so that they can easily be kept clean as long as they stand. A poultryman over the border, who is a member of the State Board of Agriculture, who about five years ago built a fine hen house plastered inside with hard finish, reports now that such a wall is almost mite proof. The house was allowed to stand and settle a little before plastering, so there are now no cracks. Cement floors, too, must have the soil on which they are laid, well packed, to avoid future heaving and cracks.

The only really discouraged people over mites are those with nest-boxes and perches unfortunately nailed tight, instead of movable, for easy cleaning. Mites, as many forget, are not of louse but of spider family, living in walls, etc., by day, coming out to suck blood at night.—Canadian Thresherman.

HENS VS. COWS.

Two hundred hens will make a farmer as much clear money during the winter as five good cows, says Farm, Field and Fireside. And it will not take half as much to keep them as will be required for the cows. This does not mean that any farmer who will give himself the necessary schooling can safely figure on getting such returns from 200 hens as we have named every winter. We are acquainted with a good many farmers who, it seems to us, could make use of this money, and it strikes us as one of the strangest things in the world why they don't reach out for it and put it in their pockets.

AN ESSAY ON HENS.

A boy who was required to write an essay on hens produced the following: Hens is curious animals; they don't have no nose nor no teeth nor no ears. They swallow their whittles whole and chew it up in their crops inside of 'em. The outside of hens is generally put into pillers and into feather dusters. The inside of a hen is sometimes filled with marbles and shirt buttons and rich. A hen is very much smaller than a good many other animals, but they'll dig up more tomato plants than anything that ain't a hen. Hens is very useful to lay eggs for plum puddings. Hens have got wings and can fly when they get frightened; I cut off a hen's head with a hatchet and it frightened her to death.

Columbian Wyandottes are coming to the front and the marked improvement in the plumage indicates that the breed is in good hands. With the plumage of the modern Light Brahma and the shape of the Wyandotte, a combination of rare beauty and utility is obtained.

If you are selling eggs to private customers it will pay you to carefully sort them, both as to size and color. An even lot of eggs always pleases the housewife more than a lot with three or four different shades and sizes. If possible sell the same kind of eggs to each customer continuously. Uniformity often sells an article more readily than other qualities.

Gray geese at 75 cents a pair are much cheaper than turkeys at 20 cents a pound, and in the hands of a skilled cook the meat of a goose is delicious.

CRUELTY TO POULTRY.

Eleven members of the Denver Commission Men's Assocation pleaded guilty last week to the charge of violating the poultry ordinance, which requires that all poultry coops shall be high enough to allow the birds to stand erect. Hereafter the association will insist on customers sending poultry in proper crates or the shipments will be refused.—Exchange.

Such a law should exist in every State.

The irrigation companies in Southern California are not to be lulled into quiet by the coming of plentiful rain. On the contrary the plans initiated for pushing irrigation interests are going forward in Riverside and San Bernardino counties with unabated vigor.

In San Francisco, an association has been formed to import Japanese women for house maids and servants, to take the place of the men who have gone back to Japan to join the army.

It is announced that a movement has been inaugurated to organize the fruit growers of the San Jose Valley on a different plan from any heretofore attempted. In brief the plan is to organize by school districts and elect delegates who will make the Farmers' Club their headquarters for the discussion and determination of action. There is to be nothing compulsory about it, the desired action being left to the good judgment and loyalty of the growers.

The weather was cool, cloudy and rainy in all sections most of the week. Frost occurred in many places, but caused no material damage.

There is now very little prospect that crops can be raised on the frequently overflowed grain lands in the northern San Joaquin and southern Sacramento valleys. The broken levees have not yet been closed and work has been suspended until the rivers fall. The flooding of the rich asparagus fields on Bouldin island has resulted in a loss of many thousand dollars. On some of the overflowed lands in the Sacramento valley farmers have commenced reseeding to grain. In the sections of Northern California not overflowed, grain continues in fair condition, but its growth is being retarded by the cool weather and incessant rains. In the southern districts the rainfall has been lighter, but enough has now fallen to insure good crops if later conditions are favorable. In Southern California the crop outlook is better than at any time during the season, and fair yields of hay and grain are expected.

Almonds, apricots and peaches were slightly injured by frosts in portions of the Sacramento valley. Deciduous fruits are reported in excellent condition in all sections, with indications of large yields. Southern orchards and vineyards were greatly benefited by the rain.

HEAVY LAYING STRAINS
Business White Wyandottes and Brown Leghorns, best to lay eggs. Eggs, $1.50 for 15. Write for useful circular.
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Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
Must Hatch Incubator Co., PETALUMA CAL.

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Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.
James Hague, Proprietor
350 College St., Oakland, Cal.

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in Southern California
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A Practical Book by a Practical Man on success in California Poultry Raising.
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ELEANORE RANCH POULTRY
EGGS $1.50 PER 13
REDUCED RATES ON INCUBATOR LOTS
Located one and one-half miles east of Glendale. My stock is bred for size and egg production only, mostly from Eastern eggs.
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If you are after first-class White Rock eggs, you ought to see my stock before buying. If they don't suit, don't buy. Send for a circular if you cannot call. Closed Sundays
Chas. T. Youngken
151 East Ave. 55 Los Angeles, Cal.

Darling's High Protein
BEEF SCRAPS
Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.
Farmers and Stockmen
All Use
Prussian Stock Food
We Carry a Full and Complete Line
GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

Albers' Black Minorcas
Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.
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GEO R ALBERS
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Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen
Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders
T. FRANK ANDERSON, HOLLYWOOD, CAL.
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THE FELLOW WHO WHISTLES.

The fellow who can whistle when the world is going wrong
Is the fellow who will make the most of life;
No matter what may happen, you will find him brave and strong—
He's the fellow who will conquer in the strike.

The fellow who can whistle when the whole world seems to frown
Is the kind of man to stand the battle's brunt;
He's got the proper metal, and you cannot keep him down,
For he's just the sort that's needed at the front.

The fellow who can whistle is the fellow who can work,
With a note of cheer to vanquish plodding care;
His soul is filled with music, and no evil shadows lurk
In his active brain to foster grim despair.

The fellow who can whistle is the "trump" card of the deck,
Or the "whip-hand" in the parlance of the street;
No petty cares nor trifles can his buoyant spirit check,
For a sunny heart can never know defeat.

The fellow who can whistle—he is built on nature's plan,
And he cheers his toiling fellow-men along;
There is no room for pessimists, but give to us the man
Who can whistle when the world is going wrong.

—Sidney Warren Mase, in December Lippincott's.

Romance of a Picture

Frank Otway, commander of the mail boat Simla, would have strongly objected had anyone suggested that he was mad, and yet it looked rather like it. A girl's face had absorbed his faculties. A face only; the girl herself he had never seen.

To explain: He had answered the specious advertisement of a certain French photographer; had not parted with his money in advance, as that astute advertiser had requested, but had risked a cheap photograph of himself, which the said advertiser undertook to enlarge into a work of art—for nothing. He was merely to recommend the fellow to his friends.

Then after some weeks of waiting an enlargement had been delivered at his address with three shillings carriage to pay, which until he had opened the parcel he greatly begrudged. And lo! here was not his own presentment, but the picture of a young girl, not of faultless beauty by any means, but a face full of enchantment. No name; no clue whatever to her identity. Here was in deed romance enough for anyone, let alone the impressionable sailor. He had said at first glance: "I love you, dear." And now, after three days' possession, he was absolutely, foolishly absorbed in this picture of an unknown.

"I'd give a year's pay to know who she is," he said, as he gazed upon the face for the hundredth time. His magnificent offer, however, did not appear to have any effect on Dame Fortune, and sailing day having arrived, he had to leave England none the wiser.

He had had his wonderful picture framed and carried it with him, keeping it locked up in a drawer, from which he took it many times a day to gaze upon the beloved face. But time is kind, even to lovers in the abstract, and a day came when he found that he had not once looked at the dear one.

"I'm regaining my senses," he said "but—if I could only know who she is! I feel as if she were my fate."

In two months' time he was home again, for, owing to the war and other exigencies, the mail boats were nearly run off their legs. On the way down to Southampton the following trip, as he sat with Norris, the doctor, after dinner, the medico happened to mention that Mrs. Dumaine was going out as a passenger with them.

"What!" said Otney, "the widow of the man who was killed leading the charge of the Cameronians at Driepfontein?"

"Yes; not a Scot's name, though?"

"No; I believe he was of an old Huguenot family; they come from my part of the country, though I know nothing of them. His wife was a beauty when young."

"Not bad looking now," said Norris, and was on the point of saying more when a stewardess came up and took him off to a patient.

Otway, being extremely busy, saw nothing of the passengers until the ship had left Southampton. That evening before dinner, when he went aft on the quarter deck, Norris led a lady forward. As he saw her approach he experienced a kind of shock.

"Who on earth is she?" he thought. Then, all of a sudden, came the knowledge this was the original of the picture. He had merely time to think further—"The photographer flattered her; why, she is forty if a day!" when Norris said:

"Mrs. Dumaine would like to know you, Captain Otway."

A gracious bow and a smile, and the lady spoke:

"I have surely had the pleasure before. Your face is very familiar to me."

As she was the most important personage on his passenger list, it was almost his duty to pay her attention, and he drew up a deck chair to the side of hers and entered into conversation, which naturally turned on the subject of her loss. Among other matters, she deplored that she had no late photograph of her husband.

"That reminds me," said Otway, "I have a very curious experience to tell you. Your photograph—I'm sure it must be yours—was sent to me in mistake for my own."

"Captain Otway! is it possible? What a strange thing! Now I understand why your face seemed so familiar to me. Our photographs were put in the wrong wrappers. I have received yours. You are the man we have so often looked at and wondered over; but as you were not taken in uniform, I did not at once recognize you."

"We?" thought Otway. "Who is 'we', I wonder?" Then he said: "It is a very strange coincidence, but pardon me a moment and I will fetch your picture."

He brought it in the very gorgeous frame which enshrined it ,and handed it to her.

She burst into tears.

"Yes—it is myself," she said, "taken fifteen years ago. I had it done for my dear husband—and—it never was received by him."

She rose to go.

"I think I will retire, Captain Otway. We had a rather tiring day. May I take this for the present?"

"Certainly, Mrs. Dumaine. Why, it is yours."

"But the frame? Ah, well we'll see in the morning. Good night."

"Well, that's over and done with," said Otway, as he went off for a smoke. But somehow it did not seem to be done with—he could not get the matter out of his mind; he even caught himself wondering how much older Mrs. Dumaine was than he, and if by any possibility he and she could——. Here he brought himself up short. "No!" he thought. "A man who marries a woman so much older than himself commits a crime. I've got to get over my disappointment the best way I can."

But even this heroic resolve would not satisfy him. Still something kept on saying to him: 'This can't be the end of it!" and his night's rest was spoiled, much to the disgust of the officer of the watch, who wondered why the deuce the "old man" did not turn in like a reasonable being, instead of wandering up and down the lower bridge, like a caged tiger.

At last sleep came to him, and he did not wake till the bright morning was far advanced and the first breakfast bugle had sounded. In consequence, when he reached the promenade on his way to the saloon he found it deserted. No! two ladies were walking slowly along, their backs toward him; as he approached they turned.

What was this? Could he believe his eyes? The very woman of his picture was before him, and with her was Mrs. Dumaine, who smiled meaningly upon him. The younger lady seemed petrified with astonishment.

"Good morning, Captain Otway."

He stammered a reply, keeping his wondering gaze on the young girl, who turned her eyes questioningly upon her mother.

"My dear," said Mrs. Dumaine, "this is Captain Otway. Captain Otway, this is my daughter, Louise."

He bowed, his senses in a whirl; but he knew that this time he had indeed met his fate.

On a Cape trip there is none too much time for a love-affair; hurry if necessary. Sailors, if the truth be told about them, are no laggards under such circumstances. Captain Otway certainly was not. Moreover, the mother was indulgent, the daughter kind. On the last evening they sat together.

"What will you give me before you go tomorrow?" he asked the girl, taking her hand.

"What do you want, Captain Otway?"

"Yourself—and my name's Frank, not Captain."

"But we have only known one another a fortnight, Frank."

"Oh, nonsense! I have had your picture in my cabin a whole voyage."

"You weren't sure it wasn't Mother, though."

"But I am now, dearest."

"I should be an awfully exacting wife."

"I'll chance that."

"I shouldn't allow any girl's photograph about."

"Yours shall be the only one."

And so they settled it.

—New York Journal.

Conductor—All aboard! Please get aboard quickly, miss; the train is about to start.

Young Lady—But I wish to kiss my sister good-by.

Conductor—Get aboard, get aboard; I'll attend to that for you.—Yale Record.

I am proud of my lamp-chimneys. I put my name on them.

MACBETH.

How to take care of lamps, including the getting of right-shape chimneys, is in my Index; sent free.

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ECONOMY IN A LEG OF LAMB.

In household buying it is well to remember that the best is the cheapest in the long run, and that there is economy in a heavy piece of well selected meat. A leg of lamb should be short, but large around, and heavy.

Wash and sprinkle lightly with salt and pepper. Mince an onion in the bottom of the pan, and add a raisin, a clove and a bay leaf, for they add to the flavor, as you baste the meat, and are strained off before making the brown gravy. Gravy should be served as well as mint sauce. A slow, steady oven and much basting insures goodness to the meat. Serve with mashed potatoes, creamed onions, celery and fried apples.

For the second dinner have the meat cold, sliced thinly and garnished with half peppers stuffed with finely cut cabbage salad, with mustard dressing; potato croquettes, creamed cauliflower and currant jelly complete the second dinner.

Cut the remainder of the meat from the bones, remove the fat and add the bones to the stock pot. Take the most perfect slices of meat and make a rich tomato sauce or dressing in the following way: Let a can of tomatoes, one onion, one pepper, one clove and a bay leaf boil for half an hour, then strain and add salt and pepper to taste, and a tablespoon of sugar; thicken with flour and butter creamed together, then add the cold meat and serve garnished with parsley. With baked potatoes, corn fritters and celery, we have the third dinner. The fine pieces may be used for hash or croquettes, as may seem best.

Now we will consider the leg of lamb from the boiled standpoint, and see how we come out as to economical use of it. For the first dinner it is boiled and served with a caper sauce, and is garnished with parsley and red beet leaves. Escalloped potatoes, beets with butter dressing and a celery and pepper salad, make a good vegetable combination with it.

For the second dinner, cut the meat in half-inch squares, make an English brown sauce and add the squares, serve on toast, garnished with fried mushrooms. Serve mashed potatoes, baked onions and lettuce salad. Cut the rest of the meat from the bones, which go to the stock pot; cut the meat very fine, make a good gravy from a cup and a half of stock; season highly and thicken with the butter and flour creamed together, and add the meat. Line a pudding dish with good piecrust, fill with the mixture, cover with a layer of thinly sliced apples sprinkled with a little sugar, and put on top crust, cutting a good-sized hole in the center. Bake a half-hour and serve with hashed potatoes, string beans and fried apples. The meat scraps may be added to the stock pot, or if sufficient is left, made into hash.—Jeannette Young.

TO PREVENT GRIP.

The prevalence of the grip during the month of March and the early part of April has led the health department of the city of Washington to give out some suggestions for the care of health at this time. It is well known that March is the most formidable month, all over the country, with which the health of the community has to cope. These have special reference to the grip, which is generally particularly prevalent during this month. The suggestions given are as applicable to the climate of California as to that of Washington. Following are the suggestions:

1. Keep away from alcoholic drinks.
2. Bathe frequently in tepid or cold water.
3. Sleep at least seven hours every night.
4. Do not make the mistake of thinking that the only way of catching the grip is by germs.
5. Make everybody destroy infected clothing.
6. Keep your wraps and rubbers with you.
7. Don't overeat.

Inasmuch as none of the suggestions given would, if followed, injure a healthy person, there can be no possible damage incurred from adopting one or all as precautionary measures.

Pneumonia, grip and kindred diseases are much more easily prevented than cured. Many persons are afflicted unnecessarily, through ignorance or carelessness. And there can be little question that the suggestions here given, if religiously observed, would not only render one immune from the disease in question, but many others as well.

An old settler in Northern California

The women of the Santa Paula Improvement club at Ventura, are disgusted at the Southern Pacific Company, who has failed to keep its contract, they allege, wherein the grounds around the depot were to be set out in palm trees, flowers and shrubs. Nothing has so far been done by the company and the ladies of the club are endeavoring to ascertain why the delay exists. If the women of the local improvement clubs in California get after the railroads to improve their depot grounds, there will be "something doing."

Monterey county's exhibit, says the New Era, consisting of nearly a carload of various agricultural, mineral, horticultural and other products of the county, has been shipped to the World's Fair at St. Louis. The exhibit weighs over thirty tons and will prove one of the attractions at the fair.

RECIPES

Eat Little, but Have That Little Good

Cream of Tomato Soup.—One quart milk, 1 pint can tomatoes, 1 large tablespoon butter, 2 large tablespoons flour, 1 bay leaf, ¼ teaspoon baking soda, salt. Stir the creamed flour and butter into the boiling milk, seasoned. Add tomatoes strained with soda, and serve at once.

* * *

Cream Salmon.—Take contents of a pint of canned salmon. Remove all skin and bone and drain off all fluid, and mince the fish fine. For a white sauce, boil a pint of milk and thicken with 2 tablespoons corn starch, adding 2 of butter, with white pepper and salt to taste. Prepare 1 pint of bread crumbs finely powdered. Put a thin layer of bread crumbs on bottom of dish, then a layer of minced fish, then a layer of white sauce, till all is used, ending with crumbs on top. Bake till crumbs are a fine brown.

* * *

Beauregard Eggs—Five eggs boiled hard; chop whites fine; put yolks through a sieve; ½ pint milk; 1 tablespoon butter; 1 scant tablespoon cornstarch; ½ teaspoon salt. Cream butter and cornstarch together; pour into hot milk and stir until thickened, then add whites of eggs. Pour this gravy upon slices of hot buttered toast, then sprinkle with the sifted yolks.

* * *

Sir Walter Wynne Pudding—Mix together four ounces good beef suet, 12 ounces bread crumbs; beat 4 eggs with 8 ounces sugar, add 3 tablespoons marmalade. Mix all together, pour into a buttered mold, boil for 3 hours. Serve with lemon sauce. Very good.

Father (angrily)—Mary, what do you mean by playing on the piano within twenty-four hours after your grandfather died? Is there no respect left in you?

Daughter—That's all right, father! I am playing on the black keys.

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The California Viticultural Club Meeting

"A small number of men who make their living by the culture of their vineyards have come to the conclusion, after comparing views, that the time has come when the grape growers of this State ought to make some effort to help themselves by means of some kind of oragnized effort."

The above is the opening of the call for a meeting of grape growers held in San Francisco March 25 and 26, and gives in a few words the motive which inspired John Swett, of Martinez, Frank T. Swett, Martinez; N. G. Rogers, Los Gatos; G. M. Westcot, Concord; B. A. Towne, Lodi; Leonard Coates, Fresno; and John Markley, of Geyserville, to sign a call for the meeting.

Pursuant to that call a number of grape growers, greater than anticipated, gathered at the Mechanics Institute Assembly room, San Francisco, last Friday morning. All the most prominent wine producing sections were represented, as may be seen by the following list of attendants:

Burton A. Towne, Lodi; G. H. Malter, Freso; P. C. Rossi, president of the Italian Swiss Colony, Sonoma county; Andrea Sbarboro, San Francisco; John Swett and Frank T. Swett, Martinez; Dr. A. Liliencranz, Aptos; Percy T. Morgan, president of the Great Western Vineyards Company and of the California Wine Association; C. M. Wooster, San Francisco; Leopold Justi, Glenn Ellen; G. M. Westcot, Concordia; A. W. J. Gibbs, Santa Cruz county; R. T. Pierce, Santa Clara; J. B. Eliot, Martinez; Bismarck Bruck, St. Helena; R. D. Read, Martinez; C. F. Seitz, Healdsburg; Richard Wheeler, San Francisco; William Maitland, Santa Cruz county; John Isaac, Sacramento; E. M. Ehrhorn, San Jose; A. J. Galloway, Healdsburg; W. A. Chisholm, Windsor; James Kelly, Martinez; D. H. Whittimore, Gilroy; H. Hoops, Wrights; R. L. Nougaret, Oakland; C. A. Whittemore, Stockton; L. Aagard, San Francisco.

The first forenoon was principally used in considering the advisability of organization, which was unqualifiedly supported by all who were called upon to speak on the matter. Amongst those who favored the movement were Messrs. Swett, Sbarboro, Morgan, Rossi and others. During the discussion much attention was given to the two bills now before Congress affecting the California viticulturists and wine makers, both of which are known as the Hepburn bills. One of these, the pure food bill, has the support of many of the men engaged in the industry in this State, but the other, which aims to prohibit the importation of wines into any State having prohibition laws, is opposed as being detrimental to the interests of California.

Prof. Geo. Husman, of Washington, Viticulturist of the Department of Agriculture, spoke of the nine stations now in charge of the department, located in this State. Of these nine the three more important are at Oakville, Napa county, where all the conditions affecting wine grape culture are studied; at Fresno, where the raisin industry is especially investigated, and at Cucamonga, San Bernardino county, where the department is looking into the possibilities of the desert sections of the West. The six smaller stations are scattered all over the State, and on them tests and experiments are made of local conditions in soil and climate.

The committee on permanent organization reported a form of constitution and favorably to the formation of a permanent organization. The following officers were unanimously elected: President, John Swett of Martinez; first vice-president, Burton A. Towne of Lodi; second vice-president, John Markley of Geyserville; secretary-treasurer, Professor E. H. Twight of Berkeley. Executive Committee, W. C. Chisholm, Windsor, Sonoma county; G. E. Lawrence, chairman of the San Joaquin County Viticultural Association; John T. Dore, Fresno county; F. H. Duffy, Santa Clara county; Frank T. Swett, Contra Costa county; Bismarck Bruck, Napa county; A. W. Gibbs, Santa Cruz county.

No little friction was caused by resolutions introduced by Bismarck Bruck, which favored the pure wine bill introduced by Hon. T. A. Bell, and urged its passage. The first day the resolution was passed, only to be reconsidered on the second day, and the whole matter referred to a committee composed of Messrs. Bundschu, Bruck, Malter, Swett and Towne.

The Bell bill is regarded by some of the small wine producers as opposed to their best interests and favorable to the California Wine Association.

The purposes of the club seem to be, as President Swett told the Cultivator representative, to get the growers together to better understand each other and their mutual interests, work for the commercial advancement of viticulture, which includes, of course, the study and eradication of California vine disease, phylloxera, mildews and other obstacles. To that end a strong pull will be made to secure a greater appropriation for the viticultural department of the State University.

FARMERS' INSTITUTES.

The following dates are set for farmers' instituttes: Prof. A. J. Cook, conductor for Southern California: Thursday and Friday, March 31 and April 1, Anaheim; Friday and Saturday, April 1-2, Monrovia; Monday and Tuesday, April 4-5, Elsinore; Wednesday and Thursday, April 6-7, Hemet; Friday and Saturday, April 8-9, Bloomington; Monday and Tuesday, April 11-12, Cucamonga. Mrs. Minnie F. Sherman, of Fresno, Prof. C. F. Baker and Mr. Fred Maskew will aid at these meetings.

A large percentage of the 1600 cars of celery sent out from the peatlands around Santa Ana this season was harvested by Japanese labor and much of the 1200 acres of beets to be planted in the Newlands district as well as the Los Alamitos acreage, will be worked by the same agency. The Japanese is a thrifty truck grower.

A committee from Lordsburg, all men of prominence in the German Baptist Brethren Church (commonly called Dunkers or Dunkards,) have gone for a tour of two weeks in the San Joaquin and Sacramento Valleys. The object of their visit is to find a location for a colony of Dunkards who desire to settle in California.

The University of California Forestry Station sent in this week from Santa Monica, to the Polytechnic School at San Luis Obispo 1700 eucalyptus trees. They will be planted on the hill side under forest conditions.

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R. L. Rutherford Highland, Cal.

Los Angeles Markets.

Los Angeles, March 31, 1904.

Local dealers report that there is a bigger demand for every thing in general than ever before at this time of the year. Although the receipts are large on nearly all products, the trade consumes them, resulting in scarcely any left-overs for the commission men from day to day.

Little change has been noted in the prevailing high prices of last week.

Butter.

Butter remains firm at last week's quotation. The demand is good and the quality of the best.

B. of T. Cream', 2-lb roll		50
Valley creamery, fancy	50	
Coast Creamery		47½
Cooking, per lb		22

Cheese.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	16	
Northern	14	15
Swiss	19	
Imported do	28	

Eggs.

Eggs are still a very interesting feature among the city dealers, being now quoted six cents higher than at this time last year. This price is too high for the number of eggs that are supposed to be in the country, and a big drop is expected soon.

Fresh ranch	21	22
Store, case count	19	20

Poultry.

Poultry is still commanding high prices. Demand is good at these quotations.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

There is no change in the live stock quotations. It is reported that stock is in good condition as grazing has never been better. Prices remain firm.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Fancy stocks are scarce and command high prices. Demand is good.

River, per cwt		1 75
Oregon, do		1 85
Local Sweets, white		3 00
Early Rose seed	2 25	
Pinkeye, do		1 60
Nevada Pearls, do		1 75

Vegetables; Mixed.

Lower prices are expecetd soon on all varieties of garden truck, as it is coming in more plentiful.

Onions, Nevada, fancy		4 50
Beets, per 100 lbs		1 25
Cabbages, do		1 25
Green peas	05	07
Lettuce, per sack		40
Tomatoes, 25-lb crate		1 25
Celery	25	30
Hubbard squash, per ton		15 00
Carrots, per sack		85
Chiles, string		75
Rhubarb	1 25	1 70
Cauliflower, per doz		35
Asparagus		09

CITRUS FRUITS; FRESH

Oranges, lemons and apples are moving fairly well with no change in market quotations.

Fancy, 126s, per box	2 00	
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 50	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs.	1 00	1 50
Strawberries	12	20
Loquats		05

Fruits; Dried.

Dried fruit unchanged. Demand only fair. Prices range as follows:

Apples, evaporated	06	09
Apricots	08	10
Peaches	06	08
Prunes	03	06
Pears		12
Raisins, per box		3 00
Raisins, loose	07	08½

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½

Hay and Grain.

As the old stock in the country is about cleaned up the markets have taken a steadier tone. No. 1 alfalfa is scarce, price holds firm. It is though that the inferior qualities will drop in price soon. The new crop is expected soon and it is thought the price will range around $9 per ton.

Grain is in good demand. No trouble to make sales and quotations vary but little.

Alfalfa		13 50
Tame oat		13 0
Barley hay	12 00	14 00
Wheat hay		13 00
Wheat	1 35	1 45
Barley	1 12½	1 15
Oats	1 25	1 35
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, March 31.

Dairy.

The general tone of the butter market has been easier this week because of accumulation. Packing of contract orders keeps the market well cleaned up.

BUTTER—Per lb:

Creamery, extras	23 @23½
Creamery, good to fancy	21 @22
Dairy, extra	20 @21
Dairy, choice	18 @19
Store	Nominal
California storage	Nominal
Eastern Creamery	Nominal

No particular change in the price of cheese; demand about normal.

CHEESE—Per lb:

Cal. Creamery, mild new, extra	12
Cal. Creamery, mild new, choice	10 @11
Young America	11 @12½
Eastern, New York Cream, Cheddars and flats, new	15 16

Eggs and Poultry.

The supply of poultry is growing lighter and, consequently, prices have changed some.

POULTRY.—Old Roosters, per doz., $5@; young Roosters, $7.50@8.50; Fryers, $5.50@; Broilers, large, $5@6; small, $4@5.50; Hens small, $5.50@6.50; large, $7@8; Ducks, per doz., old, $5.50@7; young, $6.50@

EGGS—Per doz:

Ranch, selected, large	22
Ranch, good to choice	20 @21
Store	18 @19
California Storage	Nominal
Eastern	Nominal

Fruits and Vegetables.

Some improvement was noticed in the market for oranges yesterday. There is a firmer demand and a better feeling. Better prices are looked for.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.25@2.25; standard to choice

r @$1.50, according to size; Seedlings, nom-al; Lemons, $1@3; extra, $3.25; Grape uit, $1@2; Tangerines, $1@1.25; Limes, $5 $5.50.

VEGETABLES—Asparagus, extra, per lb., ; No. 1, 5@6c; No. 2, 3@4c; Tomatoes, per x or crate, southern, $1.50@2.50; do, Mexi-n, $1.50@2.25; Rhubarb, per box, 75c@$1.25; een Peppers, per lb., 15@30c; Dried Peppers, ockton, 5@8c; southern, 8@12½c; String ans, per lb, ——; Wax, ——; Green Peas, r lb, bay, 3@5c; Summer Squash, per box, @1.50; Cucumbers, hothouse, per doz., $1.50 1.75; Mushrooms, per lb., 10@20c; Marrow-t and Hubbard Squash, jobbing at ¾@1¾c r lb.

POTATOES—Per ctl: River Burbanks, $1 $1.20; Early Rose, $1.40@1.50; River Reds, @1.10; Garnet Chile, $1@1.10; Oregon Bur-nks, $1.25@1.45; Sweet Potatoes, $3.25@3.50; ew Potatoes, per lb., 2½@3½c.

Hops.

The price for new crop is 24@27½c per lb., :cording to quality.

Beans.

The market for Beans is dull, with a mark-l absence of inquiry noted in all lines. BEANS—Prices per ctl.: Large Whites, $2.60 2.75; small do, $2.90@3.15; Pea, $2.90@3.15; ima, $3.30@3.40; Red, $4.50@5; Pink, $3.20@ 40; Bayo, $2.40@2.55; Blackeyes, $2.05@ 25; Kidneys, $4.75@5.

Live Stock.

CATTLE—No. 1 Native Steers, 9@10c; sec-nd quality, 8½@9c; thin Steers, 7@7½c; No. Cows and Heifers, 7@7½c; second quality, 4@7c; thin Cows and Heifers, 5@6c.

HOGS—Per lb.: Hard grain fed, weighing live 130 lbs. and over, 6@6½c; weighing un-er 130 lbs., 3¾@6c; weighing 250 to 300 lbs., ½@6c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $14@17; Wheat nd Oat, $14@15; Oat, $12; Barley, nominal, Clover, nominal; Alfalfa, $12@13.

STRAW—Good te choice, per bale, 60@70c.

OIL CAKE MEAL—In lots of 20 tons, $29.50.

CRACKED CORN—Choice quality, per ton, 28@29.

FEED CORN MEAL—Choice grades, per on, $29@30.

COCOANUT CAKE—In lots of 10 tons, $22; tons, $22.50; less quantity, $23. Prices are nill rates and are subject to change without otice.

GROUND BARLEY—Per ton, $24@25.

MIDDLINGS—Per ton, $24.

BRAN—Per ton, $18.

OILCAKE MEAL—In lots of 20 tons, $29.50 er ton; 10 tons, $30; 5 tons, $30.50; less uantity, $31.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@ 5.15 per bbl.; Bakers' Extra, $4.60@4.80; Ore-gon and Washington, $3.65@4.50.

WHEAT—No. 1 shipping, per ctl., $1.37; choice, $1.50; White Milling, good to choice, $1.42.

BARLEY—Choice No. 1 Feed, $1.06¼@1.12; off grades, $1.10@1.11¾; Brewing No. 1, $1.17½@1.21¾; Chevalier nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small, do, nominal; White, $1.37½@1.45; Eastern, $1.32½ @1.40.

CRACKED CORN—Choice quality, per ton, $30@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@ $1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

Small Potatoes
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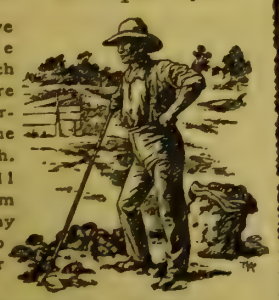

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Citrus Auction Markets

There seems to be a better feeling for the California orange trade, based on milder weather approaching and the close of the Florida season. There are yet several thousand carloads of the earlier stock of Californias to be sold, but the demand seems growing with the approach of spring weather and it is confidently expected that from this on the market will show improvement. Small sizes are more wanted than larger ones. Small retailers are buying more freely. Floridas are nearly out of the market, and exert little influence on the situation now. Porto Ricos sell well when fancy, but the supply is small. The first car of lemons in many weeks was offered Wednesday and sold at good prices.

NEW YORK CITY, March 23, 1904.

NAVELS.

Broncho, C. C. U. Redlands, $1.75; Atlas, $1.80, $1.75, $1.60; Clover $1.80; Blossom, $1.65, $1.45, $1.25, $1.40; Lion Head, $2.20; Tiger Head, $1.90; Camellia, $1.50, $1.55.
National, C. C. U. Highgrove, $2.20; Capitol, $1.90.
Gypsy Queen, C. C. U. C. B. Station, $2.10.
Infantry, C. C. U. Fillmore, $1.70.
Old Mission, Chapmans, Fult'n., $2.50; Old Mission, $2.05; Golden Eagle, $1.60.
Orange Prince, Collins Ft. Co., $2.15; Orchard Queen, $1.95.
Atlas (Bloods), C. C. U. Redlands, $1.70.
Rose (Grape Fruit), C. C. U., Redlands, $2.30.
Puritan (Grape Fruit), S. B. Ex. Rialto, $2.15.
Tiger, S. B. Ex. Colton, $2.05.
Purita, S. B. Ex. Rialto, $1.80; Tally Ho, $1.75.
Red Globe, Riv. Riverside, $1.75; Golden Rule, $1.85.
Jewel, S. A. Ex. Pomona, $1.75.
Iris, D. M. Ex. Duarte, $1.40.
Pointer, A. C. G. Ex. Lateen, $1.45.
Cactus, C. C. U. Highland, $1.75; Yosemite, $2.00.
Gondolier, C. C. U. Rialto, $1.80.
Cloister, Rubidoux Ft. Co., $2.25.
Ruth, Rubidoux Ft. Co., Riverside, $1.80.
Yosemite, C. C. U., $2.00.
Cactus, Highland F. G. A., $1.65.
Independent, Corson, Highlands, $2.10; Independent, $1.90.
Rose (Tangs.), C. C. U. Redlands, $4.50.
Tiger (Tangs.), S. B. Ex. Colton, $3.25.

PHILADELPHIA, Pa., March 23, 1904.

NAVELS.

Parrot, S. A. Ex. Pomona, $1.55; Jewel, $1.45; Parrot, $1.55.
Iris, D. M. Ex. Duarte, $1.45; Iris, T. I., $1.80.
Choice, Q. C. Ex. Corona, $1.55.
X, Cov. Ex. Savoy, $1.45.
Floral, S. B. Ex. Colton, $1.65.
Holly, Cov. Ex., Covina, $1.40; Red C, $1.35.
Pointer, A. G. C. Lateen, $1.25; Pointer, T'l., $1.70.
Banner, Pinkham & Lateen, $2.00.
Young America, McKeavit, $1.65, $1.70.
Bridge Grove, J. L. Mean, Pomona, $1.65.
Alhambra, Alhambra O. G. A., $1.35.
Fancy (Bloods), C. C. U. Redlands, $1.35.
Mission Bells (bud), Chapman, $1.25.
Gypsy Queen, C. C. U. A. Sta. Riv., $1.75; Poinsettia, $1.75; Carnation, $1.75; Excelsior, $1.75.
Gypsy Queen, C. C. U. C. B. Station, $1.65; Carnation, $1.60.
Geranium, C. C. U. E. Highland, $1.65.
Perfection, C. C. N., Allesandro, $1.85; Golden Rod, $1.80.
Arbutus, C. C. U. E. Alhambra, $1.25.
Tiger Head, C. C. U. Redlands, $1.50.
Fiesta, Riv. Pachappa, $1.75; Fancy, $1.65.
La Verne, Corson, Highland, $1.85; Alta Mesa, $1.85.

TANGERINES.

Fancy, C. C. U. Redlands, $1.70.
Mission Bells, C. C. U. Chapman, .90.

NAVELS.

Royal Knight, S. B. Ex. Redlands, $2.05; Swan, $2.05; Ben Hur, $1.85.
Tiger, S. B. Ex. Colton, $2.00; Floral, $1.70, $1.70.
Violet, D. M. Ex. Duarte, $1.10; Violet, $1.35.
V.V., Cov. Ex. Azusa A., $1.35; Clubhouse, $2.00.
Tiger (Grape F.), S. B. Ex. Colton, $1.85; Tiger (Tangs.), $1.05.
Yosemite, C. C. U., Highland, $1.80.
Rose, C. C. U. Redlands, $2.05; Atlas, $1.65; Clover, $1.60.
Cream, C. C. U. Rialto, $1.65, $1.80; Minnehaha, $1.55, $1.70.
Banner, Pinkham & McKeavit, $1.75, Banner, $1.85; Signal, $1.65.
Royal K. (Grape), S. B. Ex. Redlands, $2.05.
Royal K. (R. Bloods), $1.10.

NEW YORK CITY, March 24, 1904.

Squirrel, A. H. Ex. Prenda, $1.75.
Coyote, O. K. Ex. Upland, $1.70.
Leader, Q. C. Ex. Corona, $1.70; Monogram, $1.55.
Tiger, S. B. Ex. Colton, $2.35; Floral, $1.90.
Jewel, S. A. Ex. Pomona, $1.70.
Iris, D. M. Ex. Duarte, $1.65.
Golden Rule, Riv. Riverside, $1.85.
Golden West, C. C. U. Redlands, $2.25; Atlas, $1.80; Tiger Head, $1.65.
Old Mission, Chapmans Fult'n., $2.10; Golden Eagle, $1.75.
Pinkham & McKeavit, Riverside, $2.05.

GRAPE FRUIT.

Southland Beauties, Q. X. Corona, $1.55.
Squirrel, A. H. Ex., Brenda, $2.15.
Bear (Manderines), O. K. X. Upland, $2.10.
Yosemite, C. C. U. W. Highland, $1.95.
Yosemite, C. C. U. Highland, $1.60.
Laurel, C. C. U. Covina, $2.20; Princess, $1.55, $1.60.
Capitol, C. C. U., Highgrove, $2.10.
Carnation, C. C. U. C. B. Station, $1.90.
Sky High, C. C. U. San Marino, $1.60.
Cactus, C. C. U. Highlands, $1.30.
Blossom, C. C. U. Redlands, $1.65; Clover, $1.75, $1.35; Monogram, $2.15; Summit, $1.45.
Giesha, J. S. Kuns Covina, $1.40; LaFrance, $1.30.

TANGERINES.

Golden Orange, A. H. Ex. Prenda, $2.40.
Bear, O. K. Ex. Upland, $4.40.
Tiger Halves, S. B. Ex. Colton, $2.35.
Golden Fancy, C. C. U. Redlands, $1.95.

BOSTON, Mass., March 24, 1904.

NAVELS.

Swan, S. B. Ex. Redlands, $1.75; Fullers', $1.95; Fairy, $1.70.
Arrowhead, S. B. Ex. Highland, $1.80.
Tiger, S. B. Ex. Colton, $1.80.
O. I. C., Q. C. Ex. Corona $1.75.
Blue Seal, A. C. G. Ex. Azusa, $1.80; Red Shield, $1.60.
Fancy, S. T. Ex., Glendale, $1.50.
Grape Fruit, A. C. G. Ex., Azusa, $2.00.
Rose, C. C. U. Redlands, $1.95; Herald, $1.55.
Yosemite, C. C. U., E. Highlands, $1.90; Yosemite, $1.60.
Gypsy Queen, C. C. U. C. B. Station, $1.85.
Cream, C. C. U. Rialto, $1.95; Minnehaha, $1.55.
Red Globe, Riv. Riverside, $1.55.
Quail, O. K. Ex. Upland, $1.60.
Tangerines, S. T., A. C. G. Ex., Azusa, $1.50.

NEW YORK CITY, March 25, 1904.

NAVELS.

Fox, C. C. U., W. Duarte, $2.10; Liberty Bell, $1.80.
National, C. C. U., Highgrove, $2.35.
Capitol, $2.00, $2.05; Our Favorite, $2.10; Daisy, $1.80.
Cactus, C. C. U. Highland, $1.15.
Poinsettia, Arl. Sta. Riv., $2.15.
Yosemite, C. C. U., Highland, $1.90.
Carmencita (Grape Ft.), Fullerton, $2.55.
Rey, S. T. Ex., Fernando, $2.05; Tunnel, $2.
Rey, S. T. Ex., Fernando, $2.05; Tunnel, $2.
Carmencita (Grape Ft.), S. T., Fullerton, $2.55.
Squirrel, A. H. Ex., Prenda, $1.80; Squirrel, Carmencita, S. T. Ex., Prenda, $1.80; Squirrel Bloods, $1.90.
Echo, S. S. Ex. Orange, $1.90.
Winner, S. B. Ex. Drew Sta., $1.90.
Camellia, C. C. U. Redlands, $1.80; Blossom, $1.35, $1.65; Clover, $1.35.

PHILADELPHIA, Pa., March 25, 1904.

NAVELS.

Good Luck, C. C. U. E. Highland, $1.55.
Tiger Head, $1.60; Tiger Head, $1.75; Clover, $1.55; Monagram, $1.60.
Owl, O. K. Ex. Upland, $1.65.
Ben Hur, S. B. Ex. Redlands, $1.60.
Jewel, S. A. Ex. Pomona, $1.65.
V, Cov. Ex. Azusa, $1.35.
Pointer, A. C. G. Ex. Azusa, $1.60; Hunter, $1.35.
Quail, O. K. Upland, $1.25, $2.00.

BOSTON, Mass., March 25, 1904.

NAVELS.

Yosemite, C. C. U. Highland, $1.70.
Stearns, C. C. U. W. Highland, $1.85.
Bronco, C. C. U. Redlands, $1.85; Herald, $1.40; Clover, $1.80.
Arrowhead, S. B. Ex. Highland, $1.90.
Choice, Q. C. Ex. Corona, $1.10.
Red Globe, Riv. Riverside, $1.40.
Artillery, C. C. U. Fillmore, $1.20.

NEW YORK CITY, March 26, 1904.

NAVELS.

National, C. C. U. Highgrove, $2.30; Capitol, $2.15.
Our Favorite, C. C. U., C. B. Station, $1.95.
Rose, C. C. U. Redlands, $2.35; Blossom, $1.60, $1.95; Sunflower, $3.40; Atlas, $1.85; Tiger Head, $1.65.
Cal. Beauties, Worthley, Strong, $1.75.
Giesha, J. S. Kuns, Covina, $1.95; La France, $1.85; Silver Bow, $1.95.
La Mesa, Riv., Riverside, $2.10; Blue Mountain, $1.90; Blue Globe, $2.15; Lincoln, $1.95.
Iris, D. M. Ex. Duarte, $2.15; Violet, $1.95.
Blue Seal, A. C. G. Ex. Azusa, $2.25; Red Shield, $1.95.
Quail, O. K. Ex., Upland, $1.65.
Young America, Pinkham & McKeavit, $1.90; Silver Bow, $2.35.
Silver Buckle, S. B. Ex. Highland, $2.15; Lochinvar, $1.95.
Tiger, S. B. Ex., Colton, $2.20.
Quail, O. K., W. Cucamonga, $2.20; Lark, $2.05; Owl, $1.85.
Whittier, W. F. Whittier, $1.65.
Old Mission, Chapman, Fult'n, $2.05; Golden Eagle, $1.80.
Whittier, W. F. Whittier, $1.75; Whittier (Bloods), halves, $1.15.

TANGERINES.

La Mesa, Riv., Riverside, $3.75.
Bear, O. K., W. Cucamonga, $2.65.
Blue Seal, A. C. G. Azusa, $4.10.

GRAPE FRUIT.

Silver Buckle, S. B. Ex., E. Highlands, $2.35.
Tiger, S. B. Ex. Colton, $1.65.

LEMONS.

Independent, Corson, Highlands, $2.20.

NEW YORK, March 25, 1904.

NAVELS.

Independent, Corson, Highlands, $2.30; Alta Mesa, $2.00.
Blue Mountain (Bloods), Riv., Riverside, $1.10.
Stella, Riverside Ft. Ex., $2.25.
Young America, P. &. McKeavit, $1.95; Young America (Bloods), $1.00.
Cal. Beauty, Worthley, Strong, $1.95.
Orange Prince, Collins Ft. Co., $2.15; Orchard Queen, $1.95.

GRAPE FRUIT.

Orange Prince, Collins Ft. Co., $2.15.

PHILADELPHIA, Pa., March 28, 1904.

NAVELS.

Perfection, C. C. U. Alessandro, $1.85; Golden Rod, $1.90; Perfection, $1.90; Golden Rod, $1.65.
Cactus, C. C. U., E. Highland, $1.40.
Excelsior, Riv., Riverside, $1.40.
Blossom, C. C. U. Redlands, $1.85.
Violet, D. M. Ex. Duarte, $1.70.
Banner, Pinkham & McKeavit, $1.75; Young America, $1.70.
La Mesa (Tangs.), Riv., Riverside, .80.
Capitol, C. C. U. Highgrove, $1.65; Daisy, $1.60; Excelsior, $1.50.
Good Luck, C. C. U., E. Highland, $1.45.
Mission Bells, C. C. U., San Marino, $1.55.
Hollyhock, C. C. U. Whittier, $1.10.
Coyote, O. K. Ex. Upland, $1.60.
X, S. S. Ex. Orange, $1.75.
Alta Mesa, Corson, Highland, $1.65.
Carrier, S. B. Ex. Highland, $1.70.
Swan, S. B. Ex. Redlands, $1.10; Ben Hur, $1.10.
Golden Rule, Riv., Riverside, $1.65; Golden Rule, Riv., Riverside, $1.65.
Charter Oak, A. C. G. Charter Oak, $1.50.
Pointer, A. C. G. Ex. Azusa, $1.60.
Alhambra, Alhambra O. G. A., $1.60; Alhambra, $1.55.

BLOODS.

Perfection, C. C. U. Allesandro, $1.20.

RUBY BLOODS.

Golden Rule, Riv., Riverside, $2.00.

BOSTON, Mass., March 28, 1904.

NAVELS.

Swan, S. B. Ex. Redlands, $1.70, $1.80.
Quail, O. K. Ex. Upland, $2.05; Coyote, $1.75; Owl, $1.60.
Loma Vista, A. P. Nelson, $1.90, $1.75.
Stella, Riverside Ft. Co., $1.95.
Alhambra, Alhambra O. G. A., $1.60.
Marigold, Riverside Ft. Co., $1.85.
Eldorado, W. C. Wooldridge, $1.75; Sewell, $1.85.
Rey, S. T. Ex., Fernando, $1.95; Tunnel, $1.90.
Iris, D. M. Ex. Duarte, $1.40.
Red Globe, Riv., Riverside, $1.95; Blue Globe, $1.65.
Young America, Pinkham & McKeavit, $1.90; Banner, $1.75.
Hub, Boston & Son, $2.10.
Lomita, H. G. Goodell, $1.90, $1.30; State Seal, $1.45; Sewell, $1.70.
Rose, C. C. U. Redlands, $1.90; Atlas, $1.80; Bronco, $1.75; Redlands Beauties, $1.80.
Trophy, C. C. U., E. Highland, $2.05.
Independent, Corson, Highland, $1.95, $1.75; Alta Mesa, $2.05, $2.10.
Victor, Claremont Cit. U., $1.90, $1.75; Lorra, $1.90, $1.75.

GRAPE FRUIT.

Quail, O. K. Ex. Upland, $2.95; Bear, $2.35; Quail (quarters), .90.

LEMONS.

McNair, $1.95.

BLOODS.

Rey (Ruby), S. T. Ex., Fernando, $1.20.
Poppy (Malta), C. C. U. Redlands, $1.35.
Tangerines (halves), O. K. Ex. Upland, $1.30.

SAN FRANCISCO, Cal., March 29, 1904.

Sunflower, C. C. U. Redlands, $1.65; Blossom, $1.25; La Bella, .90.
Volunteer, S. A. Ex. Lordsburg, $1.25; Foot Hill, $1.15; Selects, .10.
Pet, S. A. Ex. San Dimas, .35; Selects, .90.
Pepper, Riv., Riverside, .85.

NEW YORK CITY, March 29, 1904.

NAVELS.

La Mesa, Riv., Riverside, $2.15.
Fiesta, Riv., Pachappa, $1.90; Puritan, S. B. Ex., Rialto, $2.05; Tally Ho, $1.80.
Leader, Q. C. Ex. Corona, $1.35; Monogram, $2.20.
Iris, D. M. Ex. Duarte, $1.95; Violet, $1.65.
Blue Seal, A. C. G. Ex. Azusa, $1.95; Blue Seal T. I., $2.10.
Quail, O. K. Ex. Upland, $1.90.
Cloister, Rubidoux Ft. Co., $2.30.
Old Mission, Chapman's, $2.85.
Red Letter, C. C. U. Glendale, $1.45.
National, C. C. U. Highgrove, $1.95; Capitol, $1.90, $2.15.
Yosemite, C. C. U., W. Highland, $1.90, Good Luck, $1.80.
Camellia, C. C. U. Redlands, $2.20; Blossom, $1.45, $1.95; Clover, $1.90; Redlands Beauties, $2.20.
Giesha, J. S. Kuns, Covina, $2.15; La France, $1.80.
Old Mission, Chapmans', $2.20.

GRAPE FRUIT.

Puritan, S. B. Ex. Rialto, $2.10; Tally Ho, $1.75.
Southland Beauties, Q. Corona, $2.10; Southland Beauties (Seedling), $1.95.

RUBY BLOODS.

Southland Beauties, Q. Ex. Corona, $2.10; Leader, $1.75.

BOSTON, Mass., March 29, 1904.

NAVELS.

Royal, Q. C. Ex. Corona, $2.00.
Tiger, S. B. Ex. Colton, $1.75.
Blue Seal, A. C. G. Ex. Azusa, $2.35; Red Shield, $1.55.
Victoria, Riv. C. B. Station, $1.90; Victoria T., $2.40.
Herald, C. C. U. Redlands, $1.75; Clover, $1.65; Atlas, $1.60.
Yosemite, C. C. U., E. Highland, $1.75.
Stag (Blue), A. C. G. Ex. Charter Oak, $1.60; Pointer (Red), $1.60.

Total to date this season, 13,368 cars, of which 1960 cars are lemons.

Total to same date last season, 10,390 cars, of which 1073 were lemons.

ALIAS SUMMONS.

No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.

By C. O. WINTERS, Deputy Clerk.

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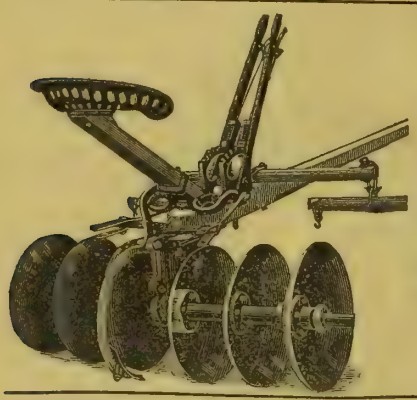

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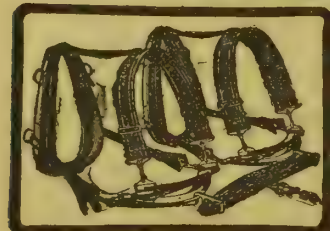

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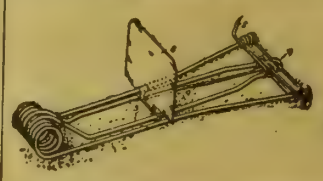

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LOS ANGELES SAN FRANCISCO

APRIL 8, 1904

IN THIS ISSUE:

Mushrooms.

Different Treatments of Apple Trees.

State Floral Society Exhibit.

The Benefit of Organization on the Part of Cattle Breeders.

Breeding Dairy Cows.

Pigeons.

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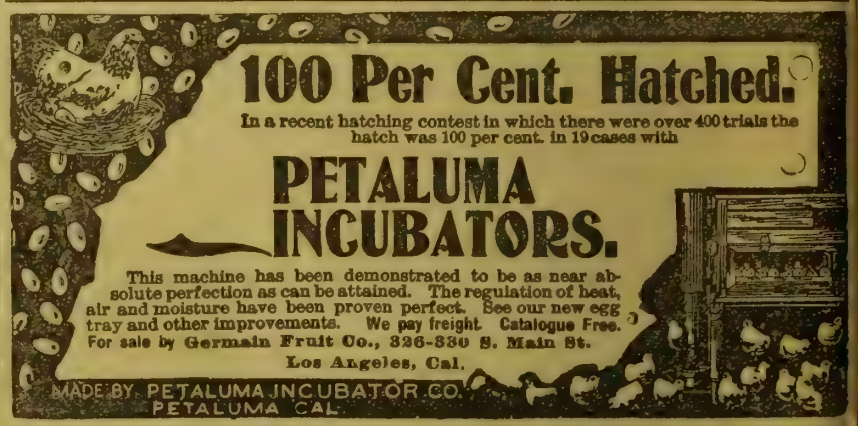
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By planting a few Orange and Lemon Trees in desirable places. Your selection in varieties is a wide one, from the standard Washington Navel Orange to the Kumquat and Pomelo. Our suggestion for home planting would be somewhat as follows:

2 Washington Navels,
2 Valencia Lates, 1 Ruby Blood,
1 Paper Rind St. Michael,
1 Mediterranean Sweet,
1 Improved Thomson's Navel,
1 Kumquat, and
1 Dancy Tangerine;
1 Eureka and
1 Villa Franca Lemon Tree; and
1 Grape Fruit (Pomelo) Tree.

You say, rather varied. So it is, but to the amateur planter there is a pleasure in studying the peculiar individuality of each variety.

Can we send you the collection? If so, write us the order. The price will be right. Remember, these are all selected specimen trees, well grown and true to name.

The San Dimas Citrus Nurseries

The Largest Growers of the Best Citrus Trees in the World

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Send for our booklet on the orange and the lemon. It is free if you will write us your wants. Correspondence a pleasure.

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SAN DIMAS, CAL., U. S. A.

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For nearly fifteen years Teague's Citrus Trees have been universally recognized as the standard of excellence. They received the gold medal at the Pan-American Exposition; and have won their spurs in all sections of the world where oranges and lemons are a commercial product;

They are winners wherever planted, because they DO grow, they DO produce fruit, and they DO yield a profit to their owners. This makes of them the kind that YOU ought to plant.

Citrus fruit production is a business, not a pastime, hence if you are contemplating planting an orchard for business, be sure and "go straight."

In this endeavor our little treatise, "The Yeas and Nays of Citrus Culture," will give you an idea or two worthy of study. A copy is yours if you will tell us about your plans and mention this advertisement.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 15 LOS ANGELES, CAL., FRIDAY, APRIL 8, 1904 Subscription $1 a Year

Irrigation Broadly Considered

PAPER READ BEFORE THE NILE CLUB OF OAKLAND, CALIFORNIA

By Governor George C. Pardee.

The irrigation of ancient Egypt should be a most interesting and important question to every loyal Californian. And that is literally true. For it has come to be understood here in California that, while we now have a population of less than a million and three-quarters, we might, if we could only properly cultivate our 35,000,000 acres of arable land, support in comfort, yes, in luxury and affluence, easily 20,000,000 of happy and contented people. We know that in the Valley of the Po, in Italy, there live, in Italian comfort, 8,000,000 of people on 3,000,000 acres of land. And we know that the reason why this can be done in this valley, where more rain falls every year than in almost any part of California, is because they take the water from the River Po and put it on their lands at such times and in such quantities as their crops demand. Nature cannot be depended on to give us rains in such quantity and at such times as will exactly fulfill the needs of the husbandmen. Sometimes Jupiter Pluvius pours down too much water to please us for the moment; at other times he withholds his life-giving showers. And, if we depend entirely on his whims and fancies, too often are we deceived by the tricky god's fair promises, and our crops do not fulfill our expectations. But, give the farmer his irrigating ditch and he becomes independent of the God of Rains. If the showers come, well and good; if they do not come, he laughs at nature and pours upon his thirsty land, at just such times and in just such quantities, the water that will insure his crops and till his lands to their full capacity. Had Egypt had, in Joseph's time, the irrigation system that she soon will have, the seven lean years, of which the story of Joseph's life so quaintly speaks, would have caused no uneasiness to Pharaoh, and it would not have been necessary to fill the royal granaries with the products of the seven fat years. And if the Valley of the Po were deprived of its irrigating system, instead of 8,000,000 people living on its fertile land, its population could not be greater than one-third that number, although the rainfall there is greater than that which we have in San Francisco.

But coming a little nearer home, those of us who have been to Salt Lake City and enjoyed the verdure and the prosperity of that Mormon town, and have contrasted it with the surrounding barrenness of the desert, will appreciate how great a blessing irrigation is. On this land, which, without the irrigating ditch, will raise nothing, are raised fine apple, pears, plums, grapes, berries and all the grains in amazing quantities. These old Mormons were great people ! ! ! Just think of them choosing the Salt Lake Desert for an abiding place when California, which they knew all about through their scouts, was only seven hundred miles away! ! But I'm glad they did settle where they did; for it gives us Californians an object lesson, at our very doors, of what irrigation will do for a people who have the energy to employ it.

And here in California we have seen with our own eyes the benefits of irrigation. When I first knew Southern California, thirty-five years ago, the spots where Pasadena, Redlands and Riverside now are were deserts, on whose lean and dreary acres a few head of cattle were able to pick up a precarious living. It was a land of cactus, rattlesnakes, jackrabbits and coyotes. Out of what was then that desert there go this year alone 30,000 cars of oranges; several great cities now people its former solitudes, and Southern California has become a land of wealth and luxury. What has brought it all about? Why, nothing but the wedding together of irrigation water and the desert. Without the irrigating ditch Los Angeles could be nothing but the village it was before, and Pasadena, Redlands and Riverside could have no existence. There would be no oranges there, and the millions of dollars that this industry alone brings into them would not be theirs. To illustrate: Thirty years ago the land where Riverside now is, raised nothing, and was, indeed, a "desert." Today there live, in affluence, on 13,000 acres of this "desert" land, 10,000 people, with churches, schools, libraries and banks galore. And nothing under heaven brought this about but the putting on of water, through the irrigating ditch at such times and in such quantities as the intelligent orange grower knew his trees demanded. Take Fresno for another example. A quarter of a century ago, the land that produces a great part of the raisins the United States now uses, was practically a desert, worth, for sheep pasture in the springtime, two or three dollars an acre, although the average rainfall there is about nine inches per annum.

SOAKING THE GROUND FOR THE FIRST TIME. Courtesy Imperial Investment Co.

But since the water of the Kings river has been put upon it, that land is worth $250 to $500 per acre. And, where formerly the sheepherder was lord of all he surveyed, today, on 65,000 of those irrigated acres, there live, on farms and in the wealthy city of Fresno, 23,000 people, whose average bank accounts are greater than any other community of which I have any knowledge.

The great Valleys of the San Joaquin and Sacramento, from Bakersfield to Redding, with the great rivers traversing them from end to end, now, with here and there a small and notable exception, raise but a tithe of what

(Continued on Page 334)

BY J. W. MILLS, ONTARIO, CAL.

MUSHROOMS.

Diversified farming is receiving more attention in California than it ever has heretofore and inquiries about new adventures occasionally come to us. Mushroom growing is one of growth that is called mycelium by industry in certain districts near San Francisco. When left to its natural seasons of growth in California, the mushroom period is a short one, as it takes a moist and warm condition of the soil to force them into growth. There are mushroom farms near San Francisco which produce almost continuous crops the greater part of the year. Alternate blocks of the land are irrigated. While one block is being picked over another is coming into bearing.

The most productive fields of mushrooms that are not under manipulation are old pastures where the soil has not been disturbed. The mushroom grows from spores similar to those of other fungii when the proper conditions are present. There are two principle parts of mushrooms and other fungii, the fruit (the umbrella-shaped part in the mushroom) and the irregular, thread-like part that grows beneath the surface. It has recently been discovered that the spores or seeds of mushrooms will not grow until they have been submitted to a high moist temperature for some time, the time and conditions required to pass through an animal, as a horse or cow, being ideal. After the spores have been submitted to this treatment, they will germinate readily when the proper degrees of temperature and moisture are present. The spawn advertised by seedmen contains both spores and the threadlike growth that is called mycelium by botanists. This latter will grow and produce mushrooms, and it is this part that produces the delicious fungus when the bricks of spawn are used.

The idea that mushrooms make their entire growth in a day or even two days, is not true. They are not so very rapid in their growth when the whole plant is considered. The mycelium sends its threadlike growth all through the substance that it feeds on and consumes a long time in doing it, during which time it is a ravenous feeder. When fruiting time comes it bursts into bloom from the slowly formed bud (the mushroom) that pushes up through the soil in a night, though not more rapidly than some beautiful flowers do, morning glories and some kinds of cactus, for instance.

Our not being able to see its entire growth leads us to believe that it is all done in a night. If the soil were carefully removed and washed from a mushroom and its "roots," there would be a large mass of fibers resembling cobwebs clinging to a comparatively small mushroom.

There are a large number of edible varieties of mushrooms, the most common in California is the Agaricus campestris and grows in the pastures where stock has run for several years and is very abundant along railroad tracks in certain districts. It has pink gills and is the most universally used. Our distinct seasons make its natural period of growth short. There is Caesar's Amanita that has a much earlier season and is much larger. The Deadly Amanita (Amanita phalloides) closely resembles it and it is well for persons not familiar with the botany of mushrooms to discard this family. Another genus is Coprinus, with several edible varieties. These grow very well in freshly manured soils.

For amateur mushroom growers, the following publications will prove helpful: "Food Products", issued by the Department of Agriculture at Washington, Nos. I, II, and III; Notes for "Mushroom Eaters," published by Garden and Forest; price 25 cents; "Mushrooms and Their Use," may be obtained from the Cambridge Botanical Supply Co., Mass.

Cornell University is issuing a series of bulletins on mushrooms that contain valuable instructions.

* * *

DIFFERENT TREATMENT OF APPLE TREES.

The Experiment Station Record gives the results of experiments with sets of apple trees to show the results of different treatments in pruning, root treatment, fertilizing and planting. The normal treatment consisted in planting the trees in trenched ground, plowed and subsoiled one way with the rows instead of digging holes for each tree; keeping the surface clean of weeds, cutting back after planting, pruning moderately in the fall, shortening growths during the summer when it appeared necessary, fertilizing with potash and phosphates in the fall and with nitrate of soda in the spring, before the blooms appeared.

When the trees were not cut back at planting, and not subsequently pruned, they were straggling in form and there was a general loss of vigor of growth. When the trees were cut back at time of planting but not subsequently pruned, they assumed the straggling appearance noted above but there was no loss in vigor of growth. Summer pinching and summer pruning produced no noticeable results.

Root pruning resulted in checking both vigor and growth. Trees root pruned every year for four years were but little more than half as large as the normal trees used as check plots. Those which were root pruned every other year were only about two-thirds as large. The crops borne by these trees, however, were heavy in proportion to their size.

When grass was allowed to grow around the trees, they were much stunted and the actual increase in weight of these trees was 18 times smaller than those grown with clean culture. The effect of grass was more destructive than weeds. Where the grass covered area was kept clean, beginning after three years, the trees commenced to gain vigor but did not make the size of the clean cultured set. The chief cause of the dwarfing of the trees was the deprivation of the trees of water, but the exclusion of the air from the soil also seems to have had a bad effect. Carelessly planted trees that were neglected the first year recovered rapidly after good care was given them.

* * *

GUM TREES, AND OTHER THINGS

Editor Cultivator: Please advise variety of gums to plant that will be suitable for piling. Please give names of apples, pears, apricots, peaches, plums and grapes that will do well here and are good for home use. Why don't we grow eastern grapes here, such as Worden, Delaware and Niagra? Where can all these be bought? Are there any currants or goose berries that will do well here? Will sugar maples and elms do well here for ornamental trees? Where can they be bought?—Subscriber, Santa Ana.

Rostrata is a good variety of Eucalypts for piling. It is perhaps the best. In a recent number we gave a desirable list of fruit trees for the home orchard for your section.

We suppose the reason why more eastern grapes are not grown here is because many varieties do poorly and so they have all been neglected. There are several varieties that have proven themselves very fine and no doubt many more will prove to be so.

Worden, Agawam, Lindly, Moore's Diamond, all are excellent varieties in Southern California. The T. S. Hubbard Co., of Fredonia, N. Y., carries about 80 varieties of eastern varieties of grapes.

We do not know of any varieties of goose berries or currants that do well with us but you being so much nearer the coast than this station, there may be some varieties which will do well with you. The only way to find out is to see if any are growing in your vicinity and if not, plant a collection. We will say the same of sugar maples and elms. It is our opinion that the sugar maple does best where the snow falls regularly every winter. The Hungarian and American elms do well here. These trees may be bought of any leading nurseryman in this State.

THE NEW PLANT GARDEN.

The United States Department of Agriculture has decided to establish a Plant Introduction Garden and Experiment Station at Chico, as has heretofore been noticed in the Cultivator. Contracts for the necessary land have been closed and work has been begu on what will undoubtedly be the grea est institution of its kind in Americ and perhaps in the world. A begi ning will be made with ninety acre but it is the intention of the depar ment to extend the area as the nee of the institution require. The garde will be devoted to experimental cu ture of the plants introduced from v rious parts of the world, and to a car ful study of plant life.

Such an institution has long bee contemplated by the Agricultural D partment. California was selected f its location on account of climatic co ditions, which admit of the culture tender plants from the tropics and northern products as well. The ide location for such an institution is th which admits of the successful cul vation of the widest possible range products and the commission entruste with the duty of selecting the site b lieve they have found it at Chico.

This commission was composed Prof. P. H. Dorsett, government e pert, who will have charge of the i stitution, and Prof. A. V. Steubenrauc of the University of California. The spent months in making a caref study of conditions affecting plant li in various parts of the State, visitin and carefully inspecting each locali likely to prove available. The decisio in favor of Chico was reached som time ago but the site selected could n be secured and another tract had to chosen, which has now been done an the purchase consummated.

Chico is situated near the easter border of the great Sacramento valle seventy-five miles north of Sacrame to, the State capital, and was the mo northerly point considered by the co mission. Climatic conditions in Ca fornia are affected but little, if at a by conditions of latitude, the orang the lemon and the olive being stap products of a district that measur fully five hundred miles north an south.

The Santa Clara county exhibit fo the St. Louis Exposition comprise more than one thousand pieces o farm, orchard, mineral and other ex hibits. A thirty-two page book de scriptive of the county will be dis tributed at the fair.

MAYWOOD COLONY

NURSERY

W. HERBERT SAMSON, PROP.

We have for sale all leading varieties of Deciduous Fruit Trees

OUR SPECIALTY:

Lob Ingir or Genuine Smyrna Fig of Commerce

A WORD ABOUT FIGS: We sell the genuine Fig of Commerce. Our cuttings came from bearing trees in the orchard of the Stanford estate, near Vina, and the fruit from these trees, after being examined by the best fig experts of the State, is pronounced the genuine Fig of Commerce, the Lob Ingir. Dr. Eisen says this and no other variety should be known as Smyrna, if the name Smyrna is to be used at all. We can refer prospective purchasers to the Supt. of the Stanford ranch, at Vina, for a verification of this statement. As to my own reliability, I can refer parties to any of the leading merchants of Corning, and to the Bank of Tehama County, and the Herbert Kraft Co. Bank, at Red Bluff, Cal. No one in the Unites States originated the Commercial Smyrna Fig. It is a variety which has been grown in Asia Minor for thousands of years. Parties may originate a fancy name and copyright it, but this does not make the fig they sell under a copyrighted name, any better. The fig we sell does not require a high sounding name to make it appear as the only commercial fig. All that we claim for our fig is that it is known as the Lob Ingir, the cuttings of which came originally from the famous orchards of Smyrna, Asia Minor, and is of the variety so largely imported into the United States in the dried state. We are not charging you for a private copyrighted name, but we sell you good 2 to 4 foot trees of the Genuine Smyrna Fig of Commerce at $150 per M. To fully demonstrate the methods used by some nurserymen in giving old varieties of fruit trees a new name and thereby make it appear that they have the only genuine article, we will say, how ridiculous it would be if we copyrighted a name like "Muro" and sold the old variety of Muir Peach under this name. Do not be misled by copyrighted names. We have the genuine Smyrna Fig of Commerce and if you want to confirm our statement, we do not hesitate to refer you to the above named parties. We can supply prospective planters a small sample of our dried figs for comparison with the so-called copyrighted figs. We also have for sale all varieties of Capri Fig trees, and all of our customers will be supplied at the proper time with a colony of Fig Wasps, free of cost. Address

W. Herbert Samson, Prop., Corning, Tehama Co., Cal.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

BISULPHIDE OF CARBON.

Please publish in your paper a recipe for poisoning squirrels. I have tried a number of patent poisons, but they are not effective.

One of the best methods for getting rid of ground squirrels is with bisulphide of carbon. This is a fluid that can be procured at any drug store, and in using it all that is necessary is to take a bunch of cotton, a piece of old burlap sack, or even a ball of dry horse manure and dip it in the fluid. Push this well into the burrow and then cover it up with dirt. The fumes will penetrate the burrow and the squirrels therein will suffocate. Of course, by this method they are never seen on the surface. A small amount of strychnine inserted into a piece of carrot, a prune or a raisin, will be found effective. This should be placed near their burrow. It is probable that the poison to which our correspondent alludes, which kills the squirrels before they can reach their holes, is cyanide of potassium, which is very quick in its action, when it is taken. In the use of bisulphide of carbon great care must be taken not to approach it with a light, as it is very inflammable and the fumes will ignite and explode it.

* * *

ROOT PRUNE.

Editor Cultivator: I have some old Royal Anne cherry trees which have not been pruned for nearly twenty years. They make but scant growth and this year have but few fruit buds, which are considerably swollen at present. What do you advise about pruning them?

When is the best time of the year for pruning them?—A Reader.

When trees have attained the age of these little pruning can be done to aid them. Remove all interfering and dead wood and, if the growth is too great, thin out somewhat. This is all that can be done. Pruning is best done in the winter months, before the trees start in the spring; any time from the beginning of January to the end of February. Our correspondent says that this year they have few fruit buds, but does not say that this is characteristic of the trees in other years. The cherry tree in some locations will not bear for some unexplained reason, and in others, where the soil is very rich, they make a great growth of wood and are slow in fruiting. In the case of these 20-year old trees it may be that they are not planted in a section favorable for cherry growth. If, however, they do not bear, it would be well to root prune them. To do this, dig a trench six or eight feet from the tree and cut off all the end roots. This will stop the too exhuberant growth and often throw the tree into bearing.

* * *

STABLE MANURE GOOD.

Editor Cultivator: Will you please tell me what is the best fertilizer for a soil that is of a heavy black adobe nature, with some alkali in it. The alkali only shows when the ground is allowed to bake after watering.—N. E. M., Santa Ana.

A liberal application of common stable manure is as good a thing as can be used in this case. This might be supplemented with some green crop, field peas or some other of the legumes, plowed under. This soil requires a larger admixture of humus and some fertilizer that will lighten it. The alkaline condition is due to improper drainage and can be remedied by draining and may be very much helped by a liberal dressing of gypsum.

* * *

POOR ASPARAGUS PROSPECTS.

The asparagus outlook in this State grows worse as the season advances, and it now looks as though the pack were going to be a very light one. The rust has very materially shortened the prospective crop and has obtained a foothold in all the important asparagus sections. It is increasing in virulence and is a serious proposition for the growers. In addition to a prospective shortage from this source, the levee on Bouldin Island broke during the late heavy rains in the north, and the whole island is under water. A greater part of the asparagus lands of the State are situated on this island and here are raised great quantities used for canning purposes. The first crop here is entirely gone and it is very doubtful whether the water will subside in time to make a later crop. The canneries themselves are built on piles and are above the water, so that little damage has been done them and, if there should be a later crop, they can soon be put in shape for handling it. The seriousness of this loss to our State can be appreciated when it is understood that in the past few years the asparagus business has grown here to such an extent that we now supply nearly one-half of the entire canned product of the whole country. This rapid growth has been due to the fact that the rust which was such a serious drawback to the industry in the east was unknown here until within quite a recent period, and it was hoped that California would escape it, but the introduction from the east of infested seeds has forever destroyed our hopes of especial prominence in this direction.

* * *

DRIED FRUIT MEN ORGANIZING.

The committee of fifteen appointed at the late Fruit Growers' Convention for the purpose of formulating some feasible plan for organizing the dried fruit growers of the State in a co-operative body has started work in good earnest, and it is hoped that beneficial results will follow their labors. The plans which they have outlined are very much on the lines of the orange growers' associations—the formation of local organizations in each producing section, each of which is to handle its own fruit, prepare and pack it for market; all of these to organize under some general selling agency which shall have the marketing of the entire out put. This is the kernel of their labors so far, although other matters were considered, such as taking measures for advertising the fruit products of the State, widening our markets, arranging for working in harmony with the present distributing agencies, arranging for the collection of statistics for the information of growers and packers, all of which have a direct bearing on the one important object, the profitable handling of our great and increasing dried fruit crop. The work has been placed in the hands of as good a body of men as could have been selected in the State, men thoroughly practical, with a long business experience along the lines upon which they are working, and the growers are fully alive to the fact that there are but two courses open to them at the present time—combination or ruin, so it is quite probable that some plan acceptible to all will be the outcome of the labors of this committee.

* * *

DECIDUOUS FRUITS PROMISE WELL.

It is pretty safe to make predictions at the present time as to the coming season's fruit crop. We have got so far along in the season that there is now little danger to be apprehended from frost or other meterological setbacks. Rain during the fruiting season of the cherry crop is not improbable, but aside from this contingency most of our seasonal dangers are over. There is now every chance for a heavy crop of cherries and peaches. Apricots will not be full crop in most sections. This fruit was in full bloom during the heaviest storms of the season and very much of the pollen was washed out of the blossoms and the fruit has not set so heavy as it otherwise would have done. Pears promise well, if the scab and blight do not appear in force later on. In all the principal pear sections spraying has been actively carried on with the Bordeaux mixture, and it is hoped by this means to very largely counteract the effect of the disease. Apples are promising well. All through the Pajaro apple section there is a determined effort to keep up the warfare so vigorously waged on the codling moth last year and we may confidently expect a good crop of good apples in that section. Altogether at the present time there is every prospect for a good deciduous crop in all the northern counties of the State.

* * *

APPLES OR WORMS.

The apple blooming season is with us again and the fight against the codling moth, which is a perpetual one, has soon to be commenced if we would have marketable fruit. There is no disguising the fact that we have the codling moth, and have it bad, in all the principal apple sections of the State and that we shall have it until Compere or some one else finds an effective parasite for it, and that until that time we have got to contest with it our right to the fruit which we consider as our own. If our apple growers want any returns they have got to spray and spray conscientiously and thoroughly. The old remedy of Paris green is, so far, the only one that can be recommended, as while there may be some better formulas, they are yet in the experimental stage and it will not do for one who is dependent upon his crop to conduct experiments. So, the Paris green spray is recommended until some better remedy has been fully demonstrated. Be sure to get the best quality of Paris green, for if cheap stuff is used the person using it will throw away his money, his time and very likely his crop, too. Use it in the proportion of one pound of Paris green to 200 gallons of water. It is sometimes used stronger, but this proportion has been found effective, and when used stronger, there is serious danger of burning the foliage of the trees and doing much damage. As a further precaution, to prevent burning, six pounds of lime are used with the Paris green. The lime should be slaked in plenty of water and allowed to settle, then the water should be poured off into the barrel in which the total amount of water has been placed. The Paris green should be made into a paste before it is added to the mass, as otherwise there is very much difficulty experienced in getting it mixed with the water. When being used, the whole should be constantly agitated, otherwise the Paris green, being heavier than the water and not soluble, will settle to the bottom and, while the top part of the mixture will be too weak to be effective, that in the bottom will be so strong as to damage the trees.

INSTITUTE DATES.

University of California, Department of University Extension in Agriculture.

Berkeley, Cal., March 30, 1904.

Editor Cultivator: The heavy and unremitting storms that we have had have interferred very materially with the institute arrangements, for it has been hard to make appointments, owing to the conditions of the roads, streams, bridges, etc., but I give you as far as has been determined upon the dates for April. I cannot give you any positiveness of dates for May because they are yet to be arranged.

April 1, Redwood City.
April 5, Linden.
April 12, Le Grand.
April 13, Ft. Romie, Soledad.
April 15 and 16, Sacramento.
April 21, Rumsey.
April 22, Guinda.
April 27, Maxwell.
April 28, Mountainview.

There will be some three or four other institutes set for the latter part of April, but dates have not yet been accepted, so I cannot give them to you as accepted dates. The May dates are being arranged. The first week in May is reserved for institutes at Ferndale, Fortuna, Arcata and Eureka, but the exact order is yet to be determined.—D. T. Fowler.

The San Jose High School is to have a four year commercial course in connection with the regular university preparatory course.

Within a few days the progessive town of Hollywood will be ready to jollify over the completion of the $300,000 boulevard that has been built in that section.

The University of California has issued its advance catalogue for the summer session, commencing June 27 and closing August 6. The course offers unusual opportunities for educational advancement along lines of special training relevant to California interests This undertaking is of a purely public character, and a constitutional part of the regular work of the University. It furnishes opportunity for teachers and others, free for continuous study only in their vacation time, to familiarize themselves with the latest advances in the fields in which their interests lie, and to enjoy the stimulation of mental contact with scholars who are acknowledged masters of their material from all the chief universities of America, and even from foreign lands. Among these visitors are many men recognized everywhere as leaders in their profession.

The steamship Cottage City has arrived in San Francisco from Skagway, Alaska, with $88,000 in gold bricks. Seventeen thousand dollars came from Dawson consigned to the Canadian Bank of Commerce in Seattle. The balance will be forwarded to San Francisco. The vessel also brought 20 tons of fresh halibut from Juneau and Wrangle Narrows, and 33 passengers.

Conducted by PROF. A. J. COOK, Claremont, Cal

STABLE FERTILIZER.

As I have often pointed out, several of the very successful citrus growers of our region are strong advocates of stable fertilizer. Mr. Thompson, of Duarte, is one of the pronounced. He practices on his theory, as I never saw such quantities of this fertilizer plowed under at one time as I have seen at his place. With other visitors, I asked him, does not this make coarse, puffy fruit? He said look at the fruit. I looked, to see as nice grained and smooth fruit as I had seen anywhere. I know of several men who have made a very signal success in their orchard work, and all are believers in barn yard fertilizer, and use it in large quantities. In our after dinner talks the other day at the Arlington Heights Estate, Mr. C. E. Rumsey stated that when he came here he visited extensively ,and in only one thing did he find that all agreed. All said that stable fertilizer made coarse fruit. He gave one exception, however, for he said that he visited Mr. Thompson's place with an experience as given above. He went home and commenced to experiment, and has given his orchard very liberally of stable fertilizer now for three years. As yet he sees no untoward results, and he proposes to keep right on in the course until he proves whether the general opinion is correct, or whether Mr. Thompson is in the right. Mr. Rumsey is a shrewd business man, and I believe that his trend is right. His beautiful orchards about Victoria Hill at Riverside show clearly that as yet he has not gone astray.

We all do well to remember that we need humus most of all in our orchards, and have two ways to furnish it. We never can gain high success unless we supply liberally this humus. Undoubtedly we do this cheapest and best in the cover crop, else we must add the barn yard fertilizer. If this is put on in the fall when the growth is slow, I do not believe that a reasonable amount will give anything but satisfaction. A very heavy coating in the late spring, when the fruit is pushing in growth and this followed by irrigation and cultivation, might crowd growth so as to bring a coarse fiber to the fruit. I do not believe that he who uses a liberal supply of this fertilizer in the fall, adding with it a reasonable amount of treated bone meal, will regret his action. We must aim at and strive to secure a steady, even growth all the season through. No spurt, no check, and if we succeed in this, we shall have, I believe, smooth fruit, and little puff and as little cracking. This is another reason for putting our cover crop in in the early fall, so as to get it under early, as early as February. Deep cultivation, which will aid to keep the roots way down, will aid to secure this even, regular growth. The ideal cultivation will keep the trees in constant thrift and never suffer any check, or push to paroxysms of growth. I do not believe any one will regret, in lieu of the better method of green manuring, of a good liberal supply of stable fertilizer at the very dawn of the autumn, to be plowed under at once and surely as soon as the first rains come. I believe there is only the argument of expense against this.

* * *

SHIAWASSEE BEAUTY APPLE.

Mr. J. W. Anderson, Carpinteria, asks about apples of the "Fameuse" variety. Would they pay as a market variety as well as the Bellefleur, or as the White Winter Pearmain. Of these apples, how does the Shiawasse Beauty rank?

The beautiful red Fameuse apple is a favorite where ever it is known. The very white, crisp flesh is also very characteristic. The apple is tender and so not a very good shipper. We know that the Bellefleur, the Newton Pippin, the Missouri Pippin and the White Winter Pearmain are excellent here. I should not wish to recommend the other in their place till they had been tested in the locality. Mr. F. Maskew, our best authority on apples, says that the Fameuse type do well here. I know the Shiawassee Beauty very well. It originated in my native county of Shiawassee, in Michigan. It is larger, firmer, and so will keep better than the Fameuse, or snow apple, as it is called, and is better in flavor. On the campus of the Michigan Agricultural College, where I lived for many years, I set out six trees for my own use, and one was a Shiawassee Beauty. We never regretted this choice. It is a very regular bearer. I believe that it would do well here; surely better than the snow.

* * *

TIME TO SPRAY.

N. E. M., Santa Ana, has read with interest the articles on spraying, and asks if the distillate spray would destroy the codling moth. He also asks when to spray for the red scale, and when for the San Jose scale, curl leaf, and codling moth.

The distillate spray will do no good at all for the codling moth. For that insect use Paris green, one lb. to 200 gallons, keep well stirred, and apply with force so as to reach all of the leaves and apples. Apply after the blossoms have fallen, and again after three weeks, if you wish to do very perfect work. One spraying, after the bloom has dropped, will do much good. Put at least five lbs. of freshly slaked lime in the 200 gallons so the leaves will not be burned.

I have had no chance to experiment with the red scale. Those who have say that the distillate spray will not kill it. Mr. Day, one of our best authorities, urges fumigation for this scale. If it is thought best to spray for this scale, I would suggest that it be done in a small way at first, and as soon as the warm weather comes. The trees should be in first class thrift, and I should use a 2½% mixture, which must be repeated in five or six weeks. It will require two applications to kill this scale, and we must try to see whether the method can be made safe and effective with this insect. With Mr. James Mills, I believe it can, and as many experts are testing it, I advise the rank and file to fumigate till the others have proved its worth.

For San Jose scale use the salt, lime and sulphur wash in the winter, when the leaves are off. This scale only works on deciduous trees.

For peach curl use the Bordeaux mixture, just as the buds are swelling, before the leaves come out. This kills the spores or germs, and thus prevents the disease.

EASTERN GRAPES.

Mr. Samuel Fiske, Glendale, refers to my lecture at their institute and inquires about the immunity of eastern grapes from the Anaheim disease. He also asks where he can get the vines. He wishes Salem, Niagara, Delaware and Agawam. I should add Iona, as it does well here and is a delicious grape. I set out several kinds of grapes Feb., 1899. Several were European, like the Muscat, and more were American, like Iona, Delaware, Niagara, etc. I regret to say that though they did admirably at first they have largely died the past two years. The American varieties seem very much less affected than do the foreign ones. The latter are all gone. The others seem all right as yet, though I thought a Concord seemed to show the disease last summer, late in the season. I secured my vines of the Niles Nursery Co., and the Fancher Creek Nursery Co., of Fresno. I am not sure that they will not all die, but have hope that the native varieties will escape the disease.

* * *

THE RAIN.

Our people are feeling much better. We have had so little rain that things began to look very discouraging. The last rain has given us 3.33 inches, and this, with what we have had before, gives us about nine inches. This, with what we are almost sure to get, will ensure a crop of hay and will make a prosperous year. Even the bee keepers may be hopeful. As the rains have come so late, they will do the utmost good, and as they have all been saved to the soil, I believe we may yet get a good, or a fair honey crop. I think the late rains do far more good than do early ones, only, of course, less snow is deposited on the mountains to help the streams in the following summer.

* * *

RECLAMATION EXPERIMENT.

As we reported some weeks ago, the Government had decided to try in our section a reclamation experiment like the one conducted at Fresno, to see if the soil could be freed of the harmful alkali. It was decided to do the work near Clearwater, between that place and Compton. I hear that a halt is called in the work. I am sure this will be regretted, as there is no more favorable place for such work, and a successful experiment would do much good. We can only hope that the work may be resumed and the experiment carried to completion.

A Rise in Price of Oranges

Will necessarily imply a rise in the price of Orange Trees. We therefore wish to emphasize the absolute necessity of your taking immediate advantage of the present LOW RATES, as we cannot guarantee their being maintained for longer than the NEXT TWO WEEKS. SHREWD ORANGE GROWERS, perceiving the wisdom of our advice, have already seized the opportunity and have secured FIRST-CLASS TREES at a lower price than has prevailed for years, and WE WANT YOU TO DO THE SAME. Should you find it convenient to give us a call, we shall esteem it a pleasure to show you our stock. Otherwise send us your address as one interested in the price of Orange and Lemon Trees and we shall favor you with a prompt reply.

REMEMBER, we ship Citrus Trees balled or bare root packed in moss and guarantee safe arrival. We also secure the lowest possible freight or express rate and in every way endeavor to consult the INTERESTS OF THE PURCHASER.

Yours Respectfully,

Armstrong Nurseries, Ontario, California

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

Q. A. L., San Gabriel.—While there is no question but acorns from an oak of good type tend to better trees than those gathered at random, experiments along this line show but little difference in the mature products. Oaks can be grown in any form, by pinching tips off the offending branches. For general purposes we would take no precautions save that of being assured that the tree or trees from which acorns were gathered happened to be Quercus agrifolia (the "Field Oak"); though many species have an equal claim to the latter name.

* * *

SMOOTH PALM TRUNKS.

F. G. S., Cucamonga.—Palm trunks can only be smooth when they have attained the proper age. Left to themselves it only occurs after a quarter of a century or more. The writer found that the old leaf sheaths were retained on trunks, clear to the ground, on the trees along entrance to Singleton Court, in Los Angeles. These trees had been planted more than thirty-five years. No attempt should be made to get smooth trunks under fifteen years' growth, and then a few inches, or a foot at most, is all you would be justified in cleaning off. The job at any time is a hard one and requires great care and patience or you will injure the palm. In the writer's opinion they look much better as nature intended they should be, the handiwork of man seldom improves the appearance of a tree. They are generally pruned and trimmed for other reasons.

* * *

FLORICULTURE WORKS.

J. H., Pomona.—There is no authoritive literature on California floriculture that we know of. The only thing attempted along this line is "Gardening in California," by Wm. S. Lyon, which contains many valuable hints. It sells for twenty-five cents. There is a crying need for a good work on ornamental gardening in this State and the writer has waited for years for one to appear from some acknowledged authority. Despairing of a work by some one better qualified to accomplish the desired end, he has set to the task himself, but whether the work will ever appear in problematical. Question two will be answered next week; at present we are not in possession of the desired information.

* * *

"FOG FRUIT" (LIPPIA RIPENS).

Each year demonstrates more and more the value of this plant as a substitute for lawn grass where the water supply is very limited. A visit to the grounds of the Hotel del Coronado at San Diego will convince the most skeptical of the value of fog fruit as a drought resistant plant and as a lawn maker in sand or very sandy soils. Much valuable time and effort is wasted in striving to keep up bluegrass lawns, where nearly all the essentials are lacking.

* * *

NATIVE WILD FLOWERS.

Our wild flowers are beginning to bloom on hill and plain and the professional seed gatherer will be noting localities where he may get his annual supplies for the European market. A goodly number of our floral species are in great demand abroad. Why are so few grown at home? Why not take note of, or mark the position of desirable plants and later get the seeds, so that you may have a corner in your garden devoted to California flowers? They are much less care than foreign plants.

* * *

PINEAPPLE SOIL.

J. E. R., Redlands.—Pineapples are not particular as to composition of soil if only drainage be first class. Soil so poor that ordinary plants will not succeed in it, will grow pine apples, though best results are only obtained by the use of commercial fertilizers. Such treatment always gives better returns than when the soil is naturally rich in plant foods. As stated above, the soil must be free and loose during the rainy season. Shade should be used in your section.

BENEFITS OF ADVERTISING.

The Sacramento Chamber of Commerce is already reaping the benefits of judicious advertising. Homeseekers from the Middle West are thronging the Sacramento valley looking for locations for varied forms of agriculture. Owing to so little irrigated lands, says the Union, the Sacramento valley is losing a great deal of this invasion of land seekers.

"It is very noticeable," says Secretary Brooks, "that nearly all the visitors complain of the severe winter they have been having in the East, which was responsible for the determination of a great many people to come to California. A number of letters are being received daily making inquiries of every kind and description, and all these inquiries are a result of the advertising that has been carried on by the Chamber of Commerce."

Eastern capital coming into California, will at no distant day, take hold of irrigation, and when that time comes and the benefits of irrigation are manifest, the population of the State will treble.

FIRST CULTIVATED ROSES.

It is said that the first cultivated rose was planted in Belgium in 1522. The damask rose was taken to England from France in 1573, the moss rose about 1724 and the China rose fifty years later.

The Pacific States Bee Journal says that " all who wish to retail honey to their neighbors are recommended to go to the grocery store and secure some oyster pails such as were on exhibition at the convention, and which were described in a recent issue of Gleanings. These pails are made of one piece of paper or cardboard and will hold liquid honey. After it is candied it can be shipped or put on sale at the stores. A neat label should be placed on each pail with directions, stating that candied honey is absolutely pure—adulterated honey will not candy. Also state how to liquify it."

The Board of Supervisors of Sacramento county have prepared an exhibit at St. Louis, a reproduction of the Great Seal of California made entirely of beans grown in that county.

Raise vegetables at home. This can be done at little expense, and freshly gathered vegetables are always appreciated at meal time.

The city of Porterville has just accepted its new system of waterworks, which is not only ample for all domestic purposes but for fire as well.

The San Jacinto Water Company has placed the price of water at two and one-half cents per inch for a flow of twenty-four hours, if used for grain irrigating.

Dr. Strasser, of San Jacinto, has built a reservoir 75x95 feet, cemented. With this reservoir he expects to irrigate from an artesian well his entire alfalfa ranch.

Congressman Reeder introduced a comprehensive bill amending the irrigation act and repealing certain land laws, which, he is quoted as stating, allow the procuring by speculators and stockmen of the very public lands which it is expected that the government will irrigate, and this bill he has referred to the irrigation committee.

A new pumping plant has been established near Tipton which is producing a very strong volume of water, and the Tulare Register says it solves the problem of production for that section as it shows what is to be expected when the water is sought.

Senator Clark of Wyoming has introduced a bill providing for a right of way for irrigation on the public lands and reservations. It authorizes the Secretary of the Interior to permit the use of the right of way through the public lands, reserved for reservation sites, national parks and other reservations for the storage or conveyance of water for irrigation or other beneficial use, for telephone, telegraph, electric power or like purposes, for tramways, etc.

The new railroad connecting Chico and Sterling was laid on Friday, and on Sunday regular trains began running. This road will open up a rich section of country to stockmen.

Commerce of San Pedro is growing at a marvelous rate. The record of lumber receipts for the year 1903 far exceeds any previous year in the history of this port, and has placed San Pedro in the front rank of entry ports in this respect.

Some 290,000 acres of land, costing $2,500,000, comes under the greatest irrigation system in this country. Modesto, the seat of the system, will celebrate the completion of the plan on April 22-23. It is stated that within the past eighteen months 3000 settlers have located on the lands, which will now be devoted to fruits and other irrigated crops instead of grain and grazing, as heretofore.

The big reservation of desert land recently made by the government in Riverside county for water development and storage purposes is soon to be duplicated by a similar reservation in this county. This move on the part of the government means that several million dollars will be used in placing the desert under cultivation in a business like manner. Many thousands of acres which are unproductive will before long be yielding big crops, and these will double the prosperity of the State. The cultivation of large tracts of land on the desert will give an impetus to mining, making the life of the prospector less hazardous, resulting in the discovery of rich fields, the existence of which are now considered but myths.—San Bernardino Times-Index.

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STERCULIAS ACACIAS
and other Shade and Ornamental Trees.
Ferns, Palms and Decorative Plants.
Choice Flower, Garden and Tree Seeds.
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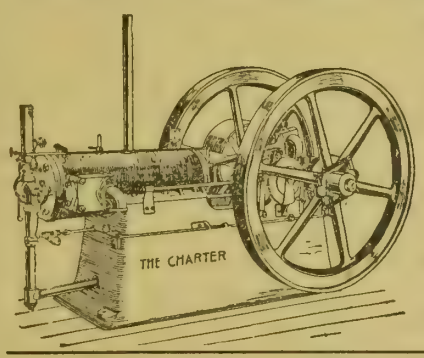
For Irrigating or Farm Work


Complete Pumping Plants Installed. Steam, Gasoline or Compressed Air. Also Spray Outfits. Sure Death to Scale.
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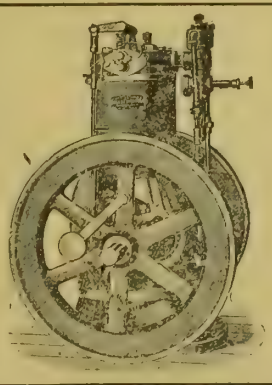
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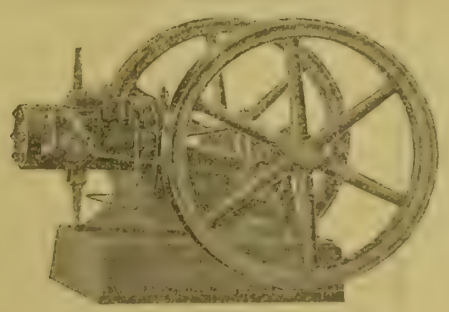
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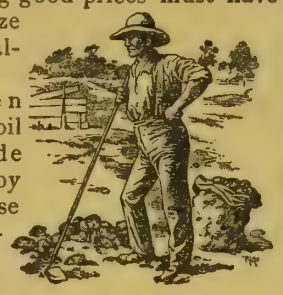
to bring good prices must have both size andquality.

Even good soil is made better by the use of a fertilizer rich in



Potash

We will send our books, giving full information about the subject, to any farmer who writes for them.

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San Francisco Suburban Property
Homestead lots and acreage land at reasonable price. Near city, some of it bounding city on the south.
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Wells drilled in first-class manner from six inches diameter to any size desired. Pumps installed

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20,000 Citrus Trees

Now ready for delivery. Washington Navels and Late Valencias. First-class, reliable stock. Get our prices before buying.
POLLARD BROS.
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Growers of Deciduous, Citrus and Ornamental Trees and Vines

THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
SEND FOR PRICE LIST AND CATALOGUE

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Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.

We still have a few of the finest two-year-old walnut trees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

MISCELLANEOUS.

Long Beach lost a fine school building this week from fire.

It is rumored in San Diego that large paper mills are to be established there this season.

The Central Lime Company, with a capital of $15,000, has been incorporated at San Jacinto.

Not satisfied with its oiled streets, San Bernardino county is preparing to macadamize its highways.

Visalia is getting ready for a mammoth Fourth of July celebration. Several towns are to be interested.

Roads in Grass Valley have become almost impassable from rain. Over 59 inches have so far fallen there this spring.

Frosts have been falling in the Watsonville district for more than a week, but so far they have not seemed to do much damage.

The hills and mountain ranges in Humboldt county are covered with snow to a depth not experienced for many years.

Twenty-two graduates of the San Jose State Normal School, this week, will be prepared to take up the work of the school room this summer.

Dr. A. W. Scott, principal of the Alameda High School, is slated to succeed Dr. Brooks as principal of the Girls' High School of San Francisco.

Contracts have been signed by the State Commission of the Lewis and Clark Exposition for the construction of the buildings to be erected by the State of Oregon.

Huntington has five shiploads of steel rails on the water from Antwerp and as soon as these arrive he will begin extensive railway building in Orange county, says the Anaheim Gazette.

The largest freighter on the Pacific ocean to fly the American flag is the steamer Alaskan. It makes Portland, Tacoma, Seattle and San Francisco, with goods laden from the Orient.

The San Francisco Board of Health has put into operation a thorough inspection of the sanitary condition of the pupils in the public schools. Fifty-two physicians are on the examining board.

They had a little wind storm up at Stockton which blew down several old shacks and one or two good buildings and now the eastern press is going it at a lively gait about the "cyclone out in California."

Representative Reeder, of Kansas, has a resolution before Congress, the vote on which may show to some extent who favor the plan to preserve the remaining lands for settlers and home makers who will live upon and cultivate the soil.

Fresno is moving for a summer resort. The location of the resort will be near the Gordon Falls of the San Joaquin, in Madera county. Though not in the geographical limits of Fresno county, it will be a Fresno enterprise, and all the trade will be with Fresno.

An excursion party of 200 or more leading business men, manufacturers and producers of California, under the management of the California State Board of Trade, will visit the St. Louis Exposition about the middle of May, going by special train to assist in making a demonstration in behalf of California.

San Diego is expecting much from the Lower California iron mines. An investigation of these mines show that the ore is very rich, which means a great deal for the new steel plant going in at San Diego.

The California Promotion Committee announces a dinner, to be followed by a symposium on the development of California, Saturady evening, April 30, at the Palace Hotel, San Francisco. This dinner will be a State function, celebrating the united efforts in promotion work. It is anticipated that the dinner will bring all sections of California in close touch.

The work of Forest Reserve Superintendent Newhall, at Fresno, in issuing permits to graze cattle on government reserves has almost ended. Applications of stockmen exceeded the number that the government believed it wise to issue. Permits have been issued for 15,000 head and refused for 5,000. The classification of the cations was such that those who live at a distance were for the most part those that were denied permits.

As a result of the consolidation of the Oregon Railroad and Navigation Company and the Southern Pacific Company, fears are entertained at Portland that an attempt will be made to raise the freight tariffs now in existence on the Soutnern Pacific Railroad and the steamship line operated by the Oregon Railroad and Navigation Company between there and San Francisco, and in case it is done local business men will undertake to have the consolidation declared a merger under the recent decision in the Northern Securities case.

E. B. Holaday, an attorney of San Francisco, has filed with the State Board of Examiners a claim against the State in the sum of $1,122,750 for the Union Trust Company of San Francisco. This suit originated from a special act passed in 1872 which created a Board of Public Works in San Francisco. This board issued bonds for the avowed purpose of opening, widening and extending Montgomery avenue. Since that time bondholders have brought suit against the city of San Francisco to recover on the bonds, but the Supreme Court held that no liability attached to the city by reason of the issuance of the bonds.

The mint at San Francisco has broken all records during the past month. The amount coined during the month has reached the enormous sum of $33,113,500, an average of more than $1,000,000 a day; in fact, the deliveries to the Superintendent from the coining department during the last four days averaged $1,550,000 per day. This, with the sum of $21,580,000 coined in February, makes a total of $54,693,500. In weight this amount would make more than 110 tons, or a little more than four big carloads of twenty-five tons each. "A research of books and records pertaining to coinage matters fails to show," says the Sacramento Union, "any account of a coinage executed in the same length of time equal to this in any of the other nations of the world."

BERRY PLANTS

Gray's Gardena Dewberries. These berries are in the lead. Very early, best quality, heaviest bearers and good shippers.
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200,000 Strawberry PLANTS

Arizona Everbearing from Eastern Plants. Guaranteed to be first-class in every respect, not mixed with any other kind, at $1.50 per thousand, if ordered within ten days.
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Strawberry and Dewberry Plants

Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.
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150,000 Arizona Everbearing Strawberries

PLANTS for sale in quantity to suit. All from plants direct from East. Very thrifty plants.
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ONE MILLION IMPROVED
Gardena Dewberry
PLANTS FOR SALE
A. R. RIDEOUT Whittier, Cal.

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PHONE SUBURBAN 108 PASADENA, CAL.
Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

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Fruit and Shade Trees
Ferns, Pansies, Roses, Etc.
Home Grown, True to Label, Lowest Prices
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SEED BED STOCK

Sweet Orange, Sour Orange, Pomelo and Citrus Trifoliata, also Valencia and Navel Buds. Stock clean, thrifty and first-class in every respect. Write for prices before you buy. Now is a good time to plant, get your order in early.
F. H. DISBROW NURSERIES
Phone Sub. 4x1. Box 1032, PASADENA, CAL.

ALIAS SUMMONS.

No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

Citrus Seed Bed Stock
Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.
B. C. BENNER, Box 13, San Dimas, Cal.

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Orange County
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SANTA ANA, CALIFORNIA
Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.
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Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.
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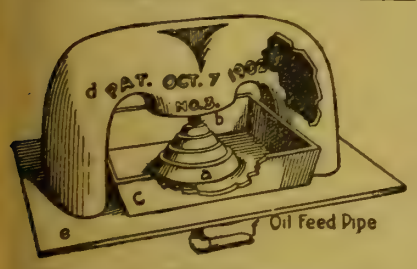

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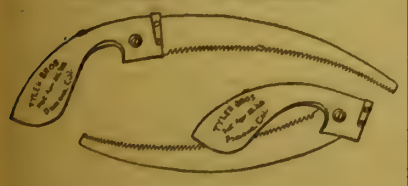
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DEALERS WANTED EVERYWHERE.
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Coast News and Notes

CONTINUED

HORTICULTURE.

Shipment of oranges from Redlands exceeds 2000 cars this season.

The lemon growers of Cucamonga are much encouraged over the lemon prospect. The largest crop in years is being grown, the fruit is of excellent quality and growers expect good prices.

At San Jose, this week, Judge Morrow denied the writ of injunction served upon the Smith Manufacturing Company to restrain them from using a prune grader which the Anderson-Barngrover Manufacturing Company claim is an infringement of their patent.

Henry F. Gilliy, a well known viticulturist of Europe, is in California. While here he will pay particular attention to the wine-growing and wine-making industries in order to give full and accurate information to a number of wine growers in Germany, who believe that California will become the future wine-producing country of greatest importance.

LIVE STOCK.

In Sonoma county sheepmen are losing lambs from cold, notwithstanding they were provided with shelter as far as possible.

The S. P. has made a reduction in freight of $1.50 a ton from Hollister to Los Angeles. Still feed is too high for general use. Dairymen complain that they can not charge enough for milk to equal the price of feed.

The Porterville Enterprise notes the arrival in that county of a car load of Holstein-Fresian pure blood cows. They are the property of Williams & Young. They came from Buckingham, Iowa, and the Enterprise says they are the finest lot of cattle of that breed at present in the county.

A dispatch to the Sacramento Bee from Cottonwood, Shasta county, says D. P. Lightwood, a sheepman of that place, has been unfortunate in losing almost his entire band of 1300 sheep as a result of the recent storm. The long continued cold rain kept the feed back and the sheep died by the hundreds from exposure and starvation. Out of a band of 1300 but 200 have been saved.

AGRICULTURE.

Ten thousand acres have been planted to lima beans on a single ranch at Santa Monica.

A convention is to be called in a few days at Stockton or Sacramento for the purpose of widening the scope of all movements for river improvements in this State, with particular reference to the Sacramento and San Joaquin rivers.

Farmers around Arcata, says a correspondent, are preparing to put more acreage to grain this season than ever before, grain prices proving inviting and dairying being attached with trouble and expense, many dairies are being closed out and grain fields substituted.

Local farmers and merchants, says the Ventura Free Press, are greatly pleased with the prospects for a good year. The rains, though delayed, are worth more than almost double the quantity of moisture if received early in the season. There has probably not been so encouraging an outlook for some years as confronts us now.

Priestley Hall, George Frost and L. M. Coleman, of Riverside, have acquired nearly 300 acres of the old Auburndale tract near Corona, which will be seeded to alfalfa. A 12-inch well has been sunk 85 feet and contains 60 feet of water, equal to a flow of 150 inches. A 45-horse power engine will be installed. This tract is a part of the old Auburndale town site, which was recently converted into acreage property.—Riverside Press.

Chico Chamber of Commerce has arranged to provide the necessary funds for the purchase of the ninety acres selected by P. H. Dorsett, representative of the Department of Agriculture, for a Government plant introduction garden. A local corporation has been formed and $10,000 will be subscribed. Land will be leased to the Government for a term of fifty years.

The Santa Rosa Water Company has brought suit in the Federal Court to restrain the city of Santa Rosa from furnishing the citizens with water. The complainants in the suit ask for an injunction prohibiting the city from acquiring and furnishing water to its inhabitants, and, further, that the city be perpetually enjoined from furnishing water by any system of its own. The company claims that it holds a fifty-year franchise, and that the municipality broke its contract when it attempted to supply the inhabitants.

F. McMillan, of Fair Oaks, has entered into an arrangement with the Department of Agriculture by which he is to begin the cultivation of wheat on a large scale. He is to follow the instructions of the department, which will co-operate with him trying several winter grains, particularly winter wheat, oats and barley. But the experimenter must follow the instructions of the department. He must furnish it at the end of the season with seed equal to the amount sent to him for planting, if he has a crop. The object of the department is to get an improved variety of wheat introduced into California.

The largest tree in Oregon was felled recently to be sent as a curiosity to the World's Fair. It is the Aberdeen spruce and nearly 300 feet high, 40 feet around and 115 feet from the ground to the first limb. Its age is calculated at 440 years, being a good sized tree when Columbus discovered the land that was afterwards called America.

It is stated that E. H. Harriman is preparing to abolish the local offices of the Union Pacific Company at San Francisco by consolidating them with the Southern Pacific.

A defect has been discovered in the recent $15,000 issue of bonds for the improvement of the city water system at Whittier. The bonds have not been sold, because of clerical errors in the bonds. They were supposed to have been sold at a premium of $712, the State also offering to pay a premium of $20. The error upon which the refusal was made was the omission of the word "California" upon the coupons, and the interest reading "To be payable semi-annually in February and September," instead of February and August.

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and says he thinks it is very good. He fed it to some pigs and it cleaned the worms out of them in a hurry and he never had pigs do better.
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Cows will give more milk and be free from disease. Makes calves grow.
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Friday, April 8, 1904

ITEMS OF INTEREST.

Dishonesty in High Places.—The conviction of United States Senator Burton, of Kansas, this week, by a jury in the United States District Court, setting at St. Louis, is a lamentable incident. Burton was a trusted representative of the great State of Kansas, in the highest legislative forum of the nation, and above all other men, should have kept his record clear—his private life above reproach. But, it seems, he could not withstand the temptations to make money dishonestly, which come to every man in public life, and now he must take the consequences of his fall from honor by losing his seat in the United States Senate, being debarred from forever holding public office, possibly being sent to the penitentiary and paying a heavy fine. Senator Burton is a comparatively young man. Before him were years of usefulness to his State and his country, honors of richest measure and the assurance, had he done right, of leaving to his family the legacy of an honored name. All these emoluments, which good men strive to obtain, he has thrown away, and today stands before the nation a convicted criminal, with "none so poor as to do him reverence." It is a sad commentory on the weakness of human nature. To the honor of the members of the jury that heard his case, be it said, a verdict of guilty was promptly rendered, thus showing that neither public station, honors nor personal attainment can lure an honest jury away from an honest verdict where crime and dishonor are manifest in the career of a public man.

Senator Burton's days for usefulness are over. He can blame no one but himself for his untimely and unsavory dismissal from public life. May the experience of this unfortunate man serve as a lesson to all public officials, for though the mills of the gods grind slow they grind to powder when the victim gets in the mesh.

* * *

Something of this same career, with equally distressing conclusions, attaches to the spectacular life of the cashier of the Orange Growers' bank at Riverside. Gifted, brilliant, with a host of friends and admirers, Tom Hays, chose the course of the "good-fellows," in society, and today occupies a criminal cell in the county jail awaiting trial for bank wrecking. It is the same old story of listening to the tempter. In this case the crime was greater than was Burton's, for Hays has brought unmeasured hardships on people not in any way responsible for his wrong doing. Scores of poor women and business men, struggling to sustain themselves, had all their money in that bank. If it pays to depositors what they put into it, it will do better than banks ordinarily do under condiions which attach to the Orange Growers' bank. It is to be hoped it will meet every claim and pay back to every depositor the money intrusted to its care. But the useful career of a man of affairs is at an end, if reports so far as published are true, and the community is the loser of one, who, had he been honest, might have become a king among financiers, for all agree that Hays has the ability to be a figure of great importance in the building up of this new State.

It is too bad that one so gifted should fall so far. Will the fate of Burton and Hays deter others from dishonest dealing? Let us hope it may.

* * *

Uproot the Orange Tree—We heard a prominent orange grower say recently that this year will see more orange orchards go out of commission than will be planted. May be. It's simply astounding how many orchardists are moved by impulse or swayed by temporarily favorable or unfavorable conditions. There are some orchards which should be uprooted. They are in unfavorable locations, or have been stunted and rendered unprofitable by years of neglect. There should be grubbed out and the ground used for better purposes.

But, because of an unfavorable year in the market such a turning from the orange industry is certainly strange. For the last few years hundreds of acres of lemons have been rebudded to oranges. Now, the lemon is looking up somewhat, the orange is down and only this week we heard an orchardist say that he was contemplating rebudding orange to lemons.

It's astounding.

It takes years to produce a profitable bearing tree. The grower should consider well what to plant and where to plant it, then stay by it.

This year the pick of the finest nursery orange trees in the world may be had for a low price. But few are shrewd enough to buy.

It will be but a few years—this is a prophecy—until planters will be climbing over each other to pay a dollar or a dollar and a half for indifferent trees. All because that happens to be a good year for oranges.

Such movements are not creditable to as intelligent a set of people as the fruit growers of California. One season doesn't make the success or failure of any industry.

We once heard a potato grower, who had the reputation for making money for his crop, say that his success came from always planting. If the market was exceptionally good and all potato growers were elated, then he planted less, for probably the next year would be a glut. When the market was low and growers discouraged, then heavy planting was his rule, and the next year he was sure to do well.

Most of us don't do that way. When the bars are down and the bell wether goes through, we all get in a jam to try and get through next.

* * *

George Y. Coutts, of Orange, met with a serious loss this week by the burning of his barn, which contained 20 tons of peanut hay and 11 tons of barley hay. A calf was burned in the fire.

The Citrus Situation...

Several things have transpired since last week to interest the community in the citrus condition but nothing to instruct them. It was widely announced by public notice. and otherwise, that a mass meeting of the orange growers would be held in this city on Wednesday, and that, at that meeting, "something would be doing" —at least to certain interests which are believed to be in league with evil influences to rob the orange producer of his just deserts.

Promptly at the appointed time 40 persons gathered in the hall, of which nine were newspaper representatives, and the remaining number about equally divided between members of the Exchange, Citrus Union and independents. Of this number, Nailor, (for Kinney) appeared to be the whole push. He explained how the "league" is to be operated. He said there is to be a "big" circle, and then a small circle to dominate the growers like the House of Lords in England, and that this inner circle is to dictate to the big circle what it shall do, how it shall do, and in any event "dictate" to the railroads what they shall do. He dwelt long and tediously on this phaze of the movement, and sat down with a sickening thud, as of one delivered of a painful birth. His auditors were evidently made acquainted with one fact, and that is, that there is to be a close corporation to control this new league of orange growers, and that the "inner circle," the "star chamber," is to dictate the proceedings of the league—if any is formed. From a business point of view the meeting was a most lamentable failure. Not a solitary conclusive suggestion was made to relieve the market conditions. Mr. Kinney was not present, but Mr. Naftzger was, and when called upon explained that the element which is now objecting to the method of the Exchange, were earnestly solicited to become members of the Exchange, at one time, but would not do so. Now they want in.

* * *

The meeting held on Wednesday shows, like its preceeding efforts that the growers are not willing to be caught in a trap until they known more of the facts relating to the causes of the depressed markets; that the conditions effecting the market are chargeable to the mismanagement of the officers of the Fruit Exchange. In this they exhibit most excellent judgement. What's the sense of getting into a rage at individuals and passing incriminating resolutions, to be sent broadcast, the more to demoralize the market, without some well defined knowledge of facts or some basis for them, cool judgment, show action, but thorough investigation of existing conditions, will do far more to clear the air of doubts and disagreements and correct errors which may exist in the affairs of the Exchange, than all the spectacular demonstrations of all the calamity howlers in the State.

* * *

The members of the Fruit Exchange are not so weak as to be led into a course of procedure which will result in the destruction of their future industry. While they are disappointed in the returns received from the orange crop this season, they will not improve the situation by airing their dissatisfaction in personal charges of dishonesty against the management of the Exchange, until, from a full examination of methods they find them to be dishonest and incompetent, as the charges made against it imply. They are, therefore, acting the part of wisdom to wait with patience the result of the investigation demanded by Kinney and others, before making up their minds what to do. This investigation, which is set for this week, and can be made, if Kinney is ready to name his three jurors, will be thorough. For his part, Mr. Naftzger has selected three as discreet, careful and honorable men as he could find in the exchange membership. Their names indicate this—General S. P. Jennison, of Covina; J. S. Slauson, of Azusa, and George Frost, of Riverside, are first-class gentlemen. If Mr. Kinney shall select three as good men as these, and these six select a seventh man of undoubted probity of character and business acumen, the orange growers will be satisfied with the finding of the facts and their report thereon.

* * *

At Monrovia, last week, Mr. Naftzger, before the Farmers' Institute, made an address, in which he reviewed at length some of the causes which have led to the present disastrous market conditions. He was listened to with marked attention, and at the close of his address received many congratulations. Among other things he said:

"In seeking an explanation of the unsatisfactory conditions of the orange market this season, we find that, besides the unprecedented cold weather having filled the market with frozen fruit, Florida's crop of 6000 cars was greater by 2000 cars than at any time in the past decade and that our own output exceeds last year's by 3000 cars. Thus the market is called upon to take care of a supply larger by 2,000,000 boxes than ever before.

"I have no attack to make on the tariff, nor do I consider it in any way responsible for the low prices.

"Shippers have compelled the agency to keep fruit moving and a very great proportion of it reached the markets frozen. Eastern dealers fixed the price at a very low figure and hoped to be able to dispose of it at a small profit, but the arrival of Florida fruit, sound and in prime condition, demoralized the markets. The cars of frozen fruit were left standing on the track in the hope that markets would improve. Having been sold, these cars had passed out of the agency's control, and could not be returned to California until the buyer unloaded them. Please to remember that I am not defending the agency, but explaining conditions. As an illustration of the delay in unloading, sixteen cars sold to Providence dealers were at one time left standing on the tracks and the railroad company could not get them."

Financial conditions in the East preceding the presidential election have had their depressing effect, he said. And he further urged that rough packing of fruit in orchards and packing houses and sending it to market in bad condition has effected the market disastrously.

In addition to these points, Mr. Naftzger asserted that "the association is made up of growers and it is ridiculous to charge them with antagonizing their own interests. Most of the dissatisfaction and most of the misleading reports circulated, originate in the offices of the Eastern brokers, who

were thrown out when the growers and big shipping firms consolidated.

"Merger with the Citrus Union has not been detrimental to the exchange. We now compete with but 20 per cent of the crop, whereas without the agency the exchange would compete with 50 per cent. Where the agency has cut prices once the so-called independents have done so fifty times and I have letters in my office to prove it. Don't believe all the newspaper reports you read, but if you are a grower and want information come to headquarters. The agency cannot afford to publish its business, but the grower is entitled to information."

Asked if rebates were lawful, Mr. Naftzger said: "I received $175,000 in rebates which was turned over to exchange growers and the directors knew about it. I had to accept the rebate method to meet competition. There are no rebates now, and I hope there will be none. Regarding the charges which have been made, I will say that if I had been dishonest enough to keep any rebate money, I would be dishonest enough to lie about it. Further than this, I have nothing to say.

"No one has any right to say what the freight rate should be. What we need first of all is to know where to start. I am not positive myself, but I think a persistent business-like agitation against rates will be of ultimate benefit."

* * *

There is one suggestion, however, being urged by members of the agency, which the Kinney charges in no way effect; and that suggestion is that the Exchange shall be divorced from the Citrus Union, and the lines which have proved so successful in the past, be restored. However, in face of the charges now pending, this question will have to lie over, and when order is once more restored then, at their annual association meetings, members can easily settle the future of cooperating with the Citrus Union.

* * *

The Cultivator can only reiterate its former advice to citrus growers (which from present indications it seems almost unnecessary to do) to stand firmly together until this storm of criticism is over. Be not disturbed by the disgruntled broker; the fellow who, having failed to get on the Exchange pay roll, is now registering a long delayed "kick;" nor yet by the shrewd politician, whose best stock in trade is a calamity cry to catch the ear of the unfortunate man who, having failed of his anticipation of high prices, is in a proper frame of mind to become an extremist as to methods which, if adopted, he is advised will benefit his condition. The Cultivator is in no sense a partisan of either wing of this controversy. It deplores the bad state of the market which has brought about this agitation of one of our choicest and most coveted industries, and it can only advise temperate action on the part of growers, with the end in view of reaching best results to all concerned.

LEMON MARKET IN MESSINA.

Report of the U. S. Consul, Messina, Italy, March 4th, 1904.—The crop of winter lemons is almost exhausted, with the exception of "November cut," which are reserved for the usual Montreal shipments, which begin about March 20th, but there are so few orders on the market that steamers are about ten days apart and only load about 4,000 boxes. The prices ruling are about 5s, 2d ($1.25 2-3) C. & F., New York. The verdilli, or spring crop, from present indications, is about one-third less than last year, but the quality promises to be much better. The freights are now 10s ($2.43 1-3) per box.

NOTICE OF MEETING.

A meeting of the members of the Apple Growers' Association will be held in Room A, at the Court House, in Los Angeles, on Saturady, April 16, 1904, at 10 a. m.—Fred'k Maskew, Secy.

CITRUS FRUITS

MISTAKES IN PACKING.

Now that the orange situation is being very fully ventilated in the newspapers, the Press desires to emphasize one fact—a great deal of our fruit is not properly graded and packed. That is an element in the situation that we cannot blame off onto cold weather in the East, Fruit Agency marketing methods, high freights or slow transit. It is a trouble that is right here at home; the growers and packers are responsible for it. And it is one of the reasons why so much fruit arrives in bad order.

There seems to have been more complaints on this score this season than ever before. And it is charged that some of the Citrus Union packing houses are much more careless this year than they were when the fruit was being bought and packed at the packer's risk instead of being put up at a fixed fee paid by the grower. The Citrus Union officers deny this and point out the fact that they have shut down on packing standards when they could get as much for packing a box of this grade as a box of extra fancies. We are inclined to think, however, from what evidence we can gather, that there is some ground for this complaint, and that careless and slovenly methods of grading and packing prevail in packing houses that in other seasons took great pride in their pack and looked after every detail.

This is a fault, however, not confined to some of the Citrus Union packing houses. The same fault can be found with some of the so-called independent packers; and a few of the Exchange associations are not above criticism.

As a matter of fact there are a considerable number of packing houses in Southern California (and Riverside is not free from them) where the oranges are dumped about so carelessly that they get bruised; dirty fruit is packed with clean, and puffy inferior oranges are wrapped and shipped that should have gone to the dump. The result is inevitable; the fruit arrives in bad shape and as a rule sells at a loss.

The time is long since past when any old oranges, packed in any old way, would sell well in the East, if only they had a California label on them. Only good, sound fruit, properly graded, and attractively put up is wanted. And it pays to add a few cents per box to the cost of packing to have the fruit closely graded and properly packed.

The grower is largely responsible for the packing of poor fruit. He has it, and he thinks it may bring something. And so he urges the packers to put it in. He gambles on the chance of its bringing him some small return. But the results this year ought to convince him if his mistake. He has had red ink returns on much of this poor fruit.

If a man has 1000 boxes of really choice oranges and 500 boxes of poor ones, he had better ship only the 1000 boxes, and throw the 500 away. That may seem hard lines, after he has had the expense of producing the fruit. But the 500 boxes of poor fruit will sell at a loss, will reduce the average on his 1000 boxes of good fruit, and injure the reputation of the house that packs them.

It costs just as much to pack and ship poor fruit as good; but it is only good fruit that the grower can hope to realize a profit on.

The only safe course to pursue is to produce a high grade of fruit; and then insist that it is closely graded and packed in a scientific manner. No matter what the temptation is to rush off a lot of inferior fruit to market, it will not pay; and if you cannot raise high grade oranges, you might as well quit first as last. You certainly have to in the long run.—Riverside Press.

HINTS ON THE SEASON.

The lateness of the rains has brought the season's work together with more than ordinary activity, and it now looks as if the orchardist will have to improve every hour in anticipation of the coming summer and the irrigation season. As the late rains have proven so beneficial, and as we may reasonably expect more rain this month, it looks as of there will be no need for irrigation for at least six weeks or two months provided every necessary work in the orchard has been done in the best manner possible by proper plowing and cultivating. Plowing should soon be over now, if the orchardist has been industrious, in fact, it is probably over in most sections of the citrus district and if the last work in the orchard was plowing in of green or stable manure nothing need be done in the line of cultivation except to run over the surface with a harrow after the rains to break up the clods, smooth the land and destroy what seeds of summer weeds may be inclined to start up. This gives good conditions for decomposition of whatever has been turned under. There will hardly be any need of up-plowing this season, in fact it would be more detriment than benefit for the object should be to keep what has been turned under as well under the surface as possible so that it may be available for plant food as soon as the young rootlets commence their search for food. If they get it at a minimum of exertion so much better for the good of the tree. The harrow should be run both ways to insure thorough pulverization of the surface and also to level and fill whatever furrows or inequalities may have been produced in plowing.

The steamer Coptic, which sailed from San Francisco for the Orient last week carried 3,800 tons of general merchandise, 2,500 tons of which was consigned to Japan. This includes 1,000 tons of barley for the Japanese Government.

Oakland is to have another street fair, from April 25 to April 30, at which time not only will the city be fully represented, but county industries as well.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

LET STEADY COUNSEL PREVAIL.

The last few weeks have developed what many growers believe to be a crisis in the history of the citrus fruit industry. That the growers have come to a critical point all will admit, but few are willing to predict failure at this time. When the confusion of the present agitation abates, and those who have placed their money into the business have time to measure things in a quieter light, they will steady down to reasonable conclusions, and to the determination not to be stampeded by threats, accusations or faultfinding. In the face of such an array of unprofitable prices as has marked the orange market for three months, it is little wonder the growers have a grievance against somebody or something. No one can blame the orchardists for the confusion now manifest in their ranks, whether they be within the Exchange, the Unions, or acting with the free-for-all contingency. But confusion is not chaos, unless it continues long enough to undo all that has been done to build up marketing agencies that have for their fundamental principles the control of the fruit until it is properly distributed and accounted for. The only way to bring order out of this confusion is first to determine, if possible, whether the present conditions are brought about by the present marketing system or by circumstances. If the former, improvement can come only through wise, conservative action. If the latter, restoration will come upon the disappearance of the circumstances responsible. In either case the firebrands now so much in evidence are not the men who can command a following sufficient to help matters if they had a clear field.

The writer can think of no incident better calculated to impress the grower than interviews with those malcontents published last week in a local paper. The first man is a notoriously active objector to everything in sight. He is a trouble maker wherever his activities strike. Such a man is seldom right, rarely useful and never a safe individual to follow. The second man to burden the columns of the paper with his complaint against the methods of the Agency was himself an applicant for the position of assistant to D. B. Campbell as field agent for the California Fruit Agency one year ago. Failing to land himself, he now turns critic and objector to the institution he was so anxious to serve for a consideration. The third man, it is stated, was put out of the Exchange because of the uniformly poor quality of his fruit and his mischief making propensities, and this long before the organization of the Agency was thought of. These three interviews reflect the men from whom they come, and are in no wise to be given influence in settling the difficulties now facing the growers. In the face of any crisis they would prove impotent. So much for the men who are now attempting to stampede the growers from the growers' own organization—the men who do not consider weather that has frozen Lake Michigan solidly, of enough importance to be mentioned in the economy of marketing the present orange crop. In their misjudgment the Agency should not let a little thing like this interfere with profitable distribution. It has not occurred before since the time when California had never shipped an orange, but that didn't matter. It was systems of doing business that fixed the minds of these great reformers. Circumstances like the freezing of a great lake the first time in 30 years are too small for great minds to consider.

The real editor of the Cultivator is giving so much attention to the market controversy that this department needs only to caution the growers against becoming panicky. The orange business will recover if these firebrands do not succeed in disorganizing the growers with their untruthful and malicious charges. When the industry has assumed its normal conditions, or the markets have been ruined by disorganization, the growers will laugh at, or anathematize the intermeddlers, whichever the case may be.

C. H. SESSIONS, ASSOCIATE EDITOR

BREEDING DAIRY COWS.

Prof. Major's address at the Buena Park Jersey Breeders' meeting discussed the necessity and the value of testing milk, but paid little or no attention to the subject of breeding the dairy cow. It seemed to us that another topic might have claimed priority in that discussion because of its importance to every breeder desirous of improving his herd. Before we can reach the highest attainment in breeding we must understand certain fundamental principles absolutely necessary to the business.

The American dairyman has been taught feeding cows, stabling them with the best environments of comfort and sanitation, caring for the products of the dairy with regard to the most hygienic demands of their being used as human food until if he has had any desire for dairy enlightenment he can measure his accomplishment by his own intelligence and studiousness. But what about his knowledge of breeding? He knows the most approved methods of feeding cows and disposing of their product, as I have said, but he is not so well posted on the matter of producing those cows.

Knowledge of the fundamental business of breeding toward the production or strengthening of a type is not so common and is not so easily acquired. Breeding for a special line of work is a matter of skill, knowledge and care and cannot be taught except by a past master in the craft. The individuality of the male and female, the prepotent influence of one meeting some intensified characteristic of the other, are subjects that cannot be well treated of in books or from the platform except theoretically, but belong more particularly to the barns and stables, where demonstrations of a theory may be worked out. It may even be suspected that much of the book and class room instruction in general agricultural science is largely too general and theoretic to meet the specific needs of the everyday operations on the farm.

I have in mind the case of a young friend who had spent three years at a leading agricultural college, making a complete failure of his first experience in growing soiling crops for his cows, and of another having taken a similar course writing to me for full instructions as to feeding a calf.

Men go much as they are led and hunt the easy paths. The general purpose cow that grazes through the byways and highways of agricultural literature is an easy thing to produce, for she is merely the result of the meeting of a male and a female. If that offspring is good for nothing it is called a scrub; if is shows superior performance it is listed as the general purpose animal, the friend of the average farmer, who has not the desire to excel in his chosen work.

Now, in all sincerity I submit the suggestion that it is much better to try to teach this average farmer with his haphazard cows that there is something better he may do in the breeding line of producing such cows than to encourage him in his average performances by substantially telling him that his cows are "good enough," "suit his environment," are "as good as he is," which latter may be literally true, but is no argument against our trying to make him better and encouraging him to develop his herd up to his advanced position.

There are many things in the physical and physiological construction of the cow more important than certain colors or shades or spots or the curve of her horn or the color of her tongue and just as capable of being fixed into a type and reproduced by succession as are any of the external shapes or markings. These are some of the finer points for the careful observation and study of the student of the dairy. As I have suggested, it is a comparatively new field for study and is not bounded by any narrow limitations.—W. J. McSparan.

MORAL INFLUENCE OF DAIRYING

In an address before the Missouri Dairymen's association President Marple said that there is certainly no business in which people who are engaged in it are reminded so forcibly of the value of time, the importance of promptness and the irretrievable and eternal loss of misspent time and opportunities disregarded, as those engaged in dairying. "A failure to feed a milk cow sufficient to supply her natural demands and enough to admit of her making a good quantity of milk, even for one time, is an opportunity lost forever and a loss that will never be made up," said Mr. Marple. "The cow that it not milked some night does not give a double quantity in the morning and there is a loss sustained that is never regained. Milk that is not attended to at the proper time sours and there is a loss of butter fat sustained that is unavoidable, because it cannot be properly separated. In short, the milk that is not gotten today is never gotten. You may defer gathering your apples or digging your potatoes until tomorrow and still get them all. Not so with milk. If you put off milking until tomorrow you lose today's milk and lose it forever. In consequence of abuse, your cow may not give her accustomed quantity of milk today. You cannot make her give tomorrow, by extraordinary kind treatment, a sufficient amount to make it up. It is lost forever. Any shortage arising from carelessness or abuse or neglect can never be regained. It is like rejected opportunities that come but once. Any effort in this direction would be as futile as trying to run the mill tomorrow with water that went over the mill dam yesterday."

Editor Cultivator.—I have some cattle that I am turning onto alfalfa pasture and they bloat badly. What will remedy the trouble.—Peter Lynch.

Do not allow your cattle to eat all the alfalfa they want at one time. Begin with thirty minutes feed every morning for ten days, then increase to an hour; feed some dry stuff between the grazing. At the end of thirty days the bloat should disappear.

An epidemic of measles among children is raging at Fresno.

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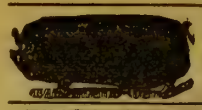
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The Benefit of Organization on the Part of Breeders

By James Boyd.

The trend of the times is towards organization in all departments of life and the individual who fails to take part in this universal movement will necessarily fail to reach the highest measure of success. During the earlier part of the century just past organization as we see it today was not possible, owing to lack of means of intercommunication. Hence the most that was possible or even desirable, was a partnership of two or more individuals in business for mutual self help. That a partnership of this kind was beneficial no one can doubt, as better results could be achieved in this way than was possible individually. "In union is strength" was no truer a century ago than it is today. As a further development of the partnership idea and as progress in means of intercommunication became more perfect the corporation idea began to be developed and laws were passed favoring the incorporation of a number of individuals to carry on industrial and other pursuits. The progress made in the application of steam, the building of railways, and the use of steamers on rivers, lakes and the ocean increased the field for the use of large amounts of capital in which the world was the field of operation, which, as it began to be occupied and competition began to prevail, cutting down the profits, again necessitated further combination, and the various organizations covering the same field began to be associated together and from this the trust came to be formed. In the corporation the individuals composing the corporation took an active part in the business, but when the trust was formed, fewer bosses were required, cutting down expenses and increasing profits. Thus an example was set and individuals were not slow in availing themselves of the practical benefits shown to arise from organization. Among the tillers of the soil we have one notable example of the benefits of organization in the form of the Fruit Exchange, which was rendered necessary to prevent destructive competition and to protect the producer from being defrauded out of the proceeds of his labors in distant markets, the latest development in this line being the formation of the Citrus Union. But while the trust as such has too often been made a means of robbery of the people, the formation of unions among the tillers of the soil have always been productive of good, not only to the farmer but to the consumer of his products.

The farmers' unions are co-operative in their nature, while too many of the trusts are practically in the nature of combinations for the self aggrandizement of the individual at the expnese of the community. It has been said that "corporations have no bodies to be kicked or souls to be damned," and hence are impervious to public opinion and obey no law but the law of might, greed and self aggrandizement. The farmers as a matter of self protection, have been compelled to unite and follow the law of self preservation. Other movements not primarily organized for the purpose of money making, but rather for the improvement of the farmer in other directions, socially and morally, such as the Farmers' Clubs, have arisen all over the country. This has again been segregated into specialties, and we have the grain growers uniting, the orange growers' movement, the apple growers' association, the small fruit growers, celery growers, and, in fact, combinations to further the interests of the growers of specialties. A further movement among the farmers is that which has for its object the perfecting of the products of the various industries dependent on the soil. The various animal industries have all their special organizations for the improvements of the breeds of animals—horses, cattle, sheep, poultry and pets of various kinds.

* * *

The Jersey Breeders' Association is a notable example of one subdivision of the cattle industry. As a matter of fact the main object of the organization is the improvement of the breed of Jersey cattle, but practically it contemplates the improvement of the material and social conditions of those composing its membership. If the "man who makes two blades of grass grow, where only one grew before" is a benefactor of his race, how much more so is he who not only adds to the beauty and symmetry of the animal creation but increases the yield and adds to the healthfulness of a leading article of diet and extends the sphere of its usefulness. The results achieved in this direction so far have amply shown the wisdom of the formation of the Jersey Breeders' Association. The farmer is the most unselfish of mortals, for no sooner does he find out a better way of doing things than he straightway proclaims it to the world. Hence all of our proceedings are given the widest possible circulation in meetings, to which all are invited, and everything of interest published far and wide. But while the direct object of the Jersey Breeders' Association is the improvement of this special breed of cattle, it is doubtful whether its secondary objects are not, in the end, of more importance to the farmer and his family than the primary object. What has already been accomplished has shown that our society is having its effect in a beneficial way. Improvements in the means of intercommunication have placed the breeder nearer to the island of Jersey, where the breed of Jersey cattle originated, then he was to his neighbor a hundred miles away a century ago. Since the newer era of improvement and settlement dawned in Southern California a generation ago, such improvements in travel have been made as rendered it possible to leave our homes in Riverside, take part in the annual meeting of the Jersey Breeders' Association at Buena Park, and elsewhere, in Los Angeles county, and return to our homes the same day, whereas formerly it was a laborious journey of a whole day by team. By the increased facilities offered for travel what previously could only be a local affair can now cover a large district. At our fairs individuals can now exhibit the best and give opportunities of making useful comparisons and discuss the best means of promoting the usefulness of our association. Recognition has been received from the local district fairs and valuable premiums have been offered with the view of calling out the best among the herds of Southern California. The State itself, too, has recognized the importance of our association by offering valuable premiums and giving other strong inducements to extend the sphere of our usefulness. Our annual and other meetings are made the channel of benefiting those who have joined themselves together to further the objects of the association. In addition to the purely business features of the meetings there is a program which is full of the most interesting features and even the State recognizes the utility of the Jersey Breeders' organization of Southern California by sending an expert in the person of Prof. Majors, of the Dairy Department of the State University to suggest to us how we many further the objects of the association. While it is to be regretted that more of those directly interested and benefited by our meetings have not seen fit to attend, it is encouraging to know that our horticultural and other papers will spread the ideas promulgated to all parts of our country. The indirect benefits of our association are not by any means insignificant. The farmer used to be, by virtue of his calling, isolated from

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his fellow man, and physical strength was his principal stock in trade, but now he is not by any means isolated, neither is the man abounding in physical strength the one who is the most successful. By the aid of machinery and improved methods the dairyman, if he would succeed, must use his brains and by improvements in agriculture and the application of discoveries in agricultural chemistry, he is able to get along on a much smaller piece of land, and so his isolation is a thing of the past and he is an active member of society and his children grow up and they can go through the common school, the high school, the business college and the State University easier than could our fathers attend the "little red school house" for a few months in the year, for a year or two, until he was physically strong enough to handle the unwieldy tools of that time and generation. Among the Jersey Breeders' Association it is the active brain that commands success, as in every department of our industrial life, and the existence of the association is the best proof that the Jersey breeder is able to take an intelligent part in all the affairs of life.

A FINE COW.

The following letter from J. J. Richardson, a member of the Los Angeles Exposition Committee of the American Jersey Cattle Club, to E. E. Moore, of Compton, will interest all breeders of Jersey stock. Mr. Richardson is one of the best judges of Jersey cattle in this country and has probably a herd of the most expensive type of this class in the United tates. His letter therefore, is naturally pleasing to Mr. Moore and all friends of the popular Jersey. It is as follows:

Davenport, Iowa, March 16, 1904.
Mr. E. E. Moore, Compton, Cal.

'Dear Sir: The California Cultivator of the 4th is before me. From her appearance Brown Bessie's Nora 112398 would be in her element if in the herd that is to contest for the world's butter championship at St. Louis; I regret that I have not known about this cow in time to have secured her. She looks like a daughter of old Combination.

I am still holding fast to the deep milking combinations; there should be more of them along the Pacific Coast. Yours truly, J. J. RICHARDSON.

In a note to the Cultivator Mr. Moore says:

"If I hadn't presumed last summer, after this committee was appointed, that only "friends" of the committee would have an opportunity to compete at St. Louis, this State would have had a representation there in Nora that might have done us honor."—E. E. Moore.

Mr. Shorey, of San Dimas, Cal., asks what is a good ration for a milk cow for best results; also wants to know if corn and cob meal is good feed for a cow. Please answer in Cultivator at earliest convenience.—M. C. S., San Dimas, Cal.

In formulating a ration for one cow, there are varying conditions that one would have to be posted on to formulate the most desirable ration, cost and availability being a considerable factor in determining the most practical ration. The following will doubtless be the best for San Dimas:

A practical ration for best results is 2 lbs. corn meal, 2lbs. rolled barley, 4 lbs. wheat bran, and all the alfalfa hay she will eat. We are assuming that alfalfa hay is available, but in event it is not, then good oat or wheat hay can be substituted for the alfalfa, in which case it would be better to leave out the 2 lbs. rolled barley and increase the wheat bran to 6 lbs.

Corn and cob meal fed with alfalfa hay is a most excellent ration, and if your inquirer can grow his own corn it would be well for him to discard the wheat bran altogether and feed from 6 lbs. to 8 lbs. corn and cob meal. - C. H. Sessions.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

PIGEONS.

There have been so many enquiries sent to the poultry department of the Cultivator that I think a talk on pigeons at this time may be interesting to our readers.

I have not as much experience with pigeons as with fowls, nor are they my hobby, as chickens are, but I have kept the largest kind, the English Runts, for about four years, and found them both interesting and, what is more to the point, decidedly profitable.

Pigeons or doves have been a favorite viand for centuries. "How long have pigeons been known, Grandma?" queried a bright boy this morning. "Don't you remember they were with Noah in the ark?" was the reply. "Were English Runts in the ark?" the next question met with a laugh from some of the elders.

"English Runts" originated, I believe in Rome where, from their large size, they were called "Rondo," or round pigeons; this was corrupted by the English tongue into "Runt," when they were carried by the Romans to England. These pigeons may eventually, I think, be known as "California Mammoths," for this splendid climate is so admirably adapted to them that the young ones hatched here are developing greater size than their English ancestors.

However, this will take time and in response to the question which is now the best pigeon for the squab market, I will say the Homer is considered the best, as with the exception of the Runts, it is the best in the market.

To be sure of giving a correct reply I asked McCollough Bros., of 123 So. Los Angeles, which were the best squabs brought to market and what prices they gave. They said Homers brought the best prices; they were giving from $2.50 to $3.00 a dozen. If you consider that pigeons require less care than any other fowl, they build their own nests, sit upon their own eggs, they usually lay two, which hatch out a pair, feed their own young at first with pigeon milk, and are fat and ready for market before they are able to fly from the nest, you will readily see they are profitable. McCollough Bros. tell me that Homer pigeon squabs weigh eight pound to the dozen; the common mongrel pigeons are much lighter.

There is, or was, a pigeon ranch at Los Angeles, containing seventeen thousand pigeons, the largest pigeon ranch in the world. The pigeons on this ranch were of the common kind. Nowhere in California could so many pigeons be seen at the same time as on the Los Angeles river at the edge of Elysian Park. The great flocks fairly cloud the air at times. This unique ranch was, when I visited it, owned by T. G. Johnson, of Los Angeles. I have since seen in the paper that the health commissioner has ordered Mr. Johnson to remove his large family from the banks of the river.

This large ranch covered about eight acres of sandy, gravelly soil in the bed of the Los Angeles river, in which I saw hundreds of pigeons bathing themselves. Clear running water is an absolute necessity for a flock of such dimensions. The river sand supplied the necessary grit. The pigeons had full liberty, but, strange to say, seldom flew far afield; they did not forage, and the cost of their maintenance was large. They were fed three times a day on wheat, wheat screenings and cracked corn. the annual feed bill being nearly seven thousand dollars. Hundreds of pounds of straw were used by the birds for nesting purposes, bales of straw were placed on the ground, from which the birds carried it to their nests. The main building for the nests was an enormous shed, sixty feet in length and twenty feet in height, similar to the roofs used over baled hay. The exterior and interior of the shed were covered with mating boxes standing upon each other in tiers of ten. Near this was another building without roof, being nothing but nest boxes piled one upon another, looking like a child's creation of blocks, only on a huge scale, whilst on the ground between these buildings was strewn hundreds of boxes, all occupied by the busy, beautiful cooing birds. In

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Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

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From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.
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Eggs of Ideal Strain. 15 Eggs, $1.00
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Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
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Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
WEST COAST STOCK FOOD CO.,
PASADENA, CAL.

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My birds won FIRST PEN at State Fair, San Francisco, and Seattle shows. You want stock of this kind. Eggs, $2.00, $3.00 and $5.00 per setting.
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I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California. They are ranch raised, healthy and number one. If you would like their eggs, write to
EGGS, $1.50 PER SETTING
S. W. MORGAN, SUNNYSIDE, CAL.

INDIAN RUNNER DUCKS
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WHITE PLYMOUTH ROCKS
Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.
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PURE BRED WHITE LEGHORNS
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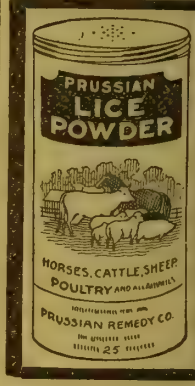

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Cattle, Hogs, Sheep, Etc. Easy to apply—dust it on.
"Rids calves of Lice"—C. Voss, Armour, S. D.
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Price, 25 and 50c a Pkg. By Mail, 40 and 70c.
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EL ORO POULTRY FARM
FRESNO, CAL.
H. H. HOLLAND - Proprietor
Breeds 14 varieties of land and water fowls, including Blue Andalusians, White and Brown Leghorns, White, Buff and Barred Rocks, Black Minorcas, Silver Spangled Hamburgs, Guineas, Bronze Turkeys, Pekin Ducks, Light Brahmas, Buff Cochin Bantams, Buff Orpingtons.
Settings from $1 to $3 Each, for Prize and High Bred Stock.
Place your orders at once. First come, first served.

ALL THE YEAR ROUND
In sickness and in health, in the laying season, the hatching season and the moulting period, nothing is so good for fowls as
PRUSSIAN POULTRY FOOD
People who use it constantly recommend it not only as a flesh, egg and growth producer, but endorse it as a cure for cholera, roup, etc.
Your Prussian Poultry Food is simply immense. I have fed it the last year to my flock of 350 and there has not been a single case of disease of any kind happen to them—A. C. Myers, Mt. Morris, Ill.
Prices on Poultry Food, pkgs. 25 and 50 cents. If by mail 40 and 75 cents, Pails $3.50. We also manufacture the famous Prussian Lice Powder and Prussian Lice Killer. Apply to your dealer. If not there write us. We will supply you and send you Our 68 Page Book Free.
Prussian Remedy Co., St. Paul, Minn.

ill there were, on my last visit, between eight and nine thousand pairs of birds nesting here.

The increase of this gigantic flock was enormous, about forty thousand squabs being marketed per year. The gross income being about ten thousand dollars. The squabs, not being game birds, can be eaten the year round, and the supply in Southern California has never been quite up to the demand, despite the enormous output of this ranch.

Mr. Johnson found that the only enemies were rats which, at first, destroyed many eggs and young squabs, but when I was there the rats were kept in subjection by his lovely little fox terriers. I mention this ranch in reply to the questions about pigeons.

* * *

Homers are more prolific than the common varieties. They are wonderful breeders, and will breed very large fat squabs, but their best feature and one that makes them very much more desirable than common pigeons is their devotion to their home; and for this reason it is very desirable to buy only young birds that have not mated, for the old ones will leave you and return to their old nest. If they get the amount of food they require they will rarely trespass on the neighbors, and there is no loss from their straying or being trapped at other lofts, or poisoned by neighbors.

They need no housing other than open sheds, and thus housed with freedom they are never sick. They must have plenty of clean water for drinking and for bathing. I give mine a variety of food, but the staple is wheat; the variety, cracked corn, rolled oats, Kaffir corn and peas. I keep always before them granulated charcoal, fine chick grit and a lump of rock salt, of which they are very fond.

Pigeons mate only in pairs, one male and female; they keep faithful to each other for life and can be successfully bred to even ten years of age. They lay two eggs, which take about eighteen days to incubate, the birds taking it by turns to sit on the eggs, the female usually sitting from about four in the evening till eight or nine the next morning, when the male takes her place for the day. Before the squabs are ready to leave the nest the parent birds build again in the nest-box nearest them and whilst one parent is sitting on the eggs, the other continues to feed the youngsters. The very young pigeons are fed by the parents on what is called pigeon milk, which is secreted in the crop of both parent birds and is nature's provision for the young. As the little ones grow larger and require more substantial fare, the supply of milk decreases and the parents feed them from their bills with the grain which they have previously swallowed.

* * *

I have never had any trouble with my pigeons excepting at one time mites infested the nests, then I found dusting the squabs with "Lambert's death to lice" proved death to the mites. I also burnt the old boxes and now each time when the young are half fledged I examine them and powder them with Lambert if necessary. Some people in the east complain of canker mouth in their pigeons. I have never seen or had any. I keep only three pair of Runts; they give me from twenty to twenty-four pair of squabs per year, which are most delicious eating. Squabs are always in season, and are always in demand.

Homers can be had at almost any town in California. Those that are noted flyers, finding their way home from a great distance, demand a high price; those without a record can be had from $2.00 to $5.00 per pair. Runts are from $5.00 to $10.00 per pair. A Runt-Homer cross makes a good squab for market. Runts and Homers can be bought from S. Tyler, 326 Bradford St., Pasadena; Harry Mitchell, box 324, Ontario; The Olive Pigeon Lofts, 853 So. Olive st., Los Angeles, and others.

The Guinea Hen.—Probably it is not every farmer, says an exchange, who knows the ability a guinea hen has to quell disturbances and break up quarrels that may end in fights. We have witnessed several such combative occasions and closely watched with interest the guineas as little peacemakers. It has occurred even among the great yellow-lipped white Peking ducks, who are themselves non-combative. The little guineas are sharp watchmen, being wide awake and on the qui vive for strangers or flying poultry enemies; they give alarms early and in due time for vagrants to escape. Farmers will do well to watch the shy guineas and give them a trial for their good qualities. Their tiny eggs are rich and nutty, provided they can be found.

Color of Yolks.—The dark-colored yolks are preferred by those who use eggs for cakes and pastry, and the question is frequently asked why the yolks are paler in some eggs than in others, says an exchange. The color does not indicate quality, but depends altogether upon the food. If the hens are fed with yellow corn or clover hay the yolks will be deeper in color than when wheat and bran are fed. In summer when hens can secure a greater variety the color of the yolk is deeper than when the food is restricted to one or two kinds only.

Food Value of Eggs.—Like milk, an egg is complete food, says Farm and Fireside. If fed on eggs alone, young animals are furnished with all the necessary elements for the growing of bone, muscle and all that goes to make a perfect animal of its kind. A hen can possibly lay 200 eggs in a year, but ought to certainly produce 120. Eight eggs will weigh a pound.

Two chickens, one white, the other black, and both hatched from the same egg, are now in possession of a correspondent at Enfield, Wash.

Twelve thousand tourists come into California during the month of March, and of this number two-thirds, it is estimated, will remain permanently.

WinnerBuffalo World's Fair, Los Angeles, Oakland, Fresno

We won nearly every 1st, 2nd and Special on White Leghorns at Los Angeles, December, 1903. The greatest exhibit ever heldwest of the Missouri·

WHITE LEGHORNS

Our flock was formerly headed by the Prize Cock of the New York show, whose sire also won the first at New York the previous year. Of our bird, the judge said: "The best-shaped bird I ever saw; the finest tail and carriage I ever saw; the whitest bird I ever saw."

Among the choice leaders now of our flocks is Rob Roy, a most perfect specimen of extremely large, snow white birds, winner of 3 firsts at New York State Fair, and other prominent exhibitions. He is also a remarkable sire of prize winners. One of his cockerels is at present among the leading birds of the Eastern States. Romeo, a 7 lb., large, snowy white bird, winner of first at Madison Square Garden, New York's great show, and winner of first wherever shown, as well as being a remarkable sire. Similar remarks apply to Sunny Jim, a high-class large, perfect bird, from famous egg producing strains of large eggs.

Best Strains, Best Birds, Greatest Layers, Largest Eggs, Up-to-Date in Every Respect. None better. Lay more and larger eggs, 6 and not over 7 to the pound. Test yours.

To our flock of already choice birds, we have recently added some of the best birds to be found among the most famous flocks of the largest and best Eastern breeders, Selected not only for their Show qualities, but more essentially for their laying qualities of large eggs, which we have always made our strongest point in breeding or selecting. Among them is "WHITE ROSE," first pullet at Madison Square Garden, January, 1901; first prize pullet at Cortland, December, 1900; also winner of Golden Special for highest-scoring bird in Show, 96½ by Zimmer; also her two full sisters, and first prize hen, Snow Queen, at Madison Square Garden, New York, 1903. Judge G. H. Burgott says of her in American Fancier, Jan. 17, 1903; "A typical grand bird." Also others equally good from the same pen. and the prize cockerel at the Pan American World's Fair, (we having previously owned the prize cock and infused his blood in our young stock). We now place him as a splendid addition of new stock, and one of the most perfect speeimens of true type of large pure white Leghorns to be found.

"The hens that lay are the hens that pay." Nearly all flocks of White Leghorns are the old small variety, layers of small eggs; our strain is snow white, large birds, bred for many years to lay more and larger eggs. Ours won many first prizes all over the East at biggest shows as well as Pan-American World's Fair. Such strains of White Leghorns give one-quarter more egg production, cost one-third less for feed and care than any other variety, while the large white eggs sell from 2c to 5c more per dozen. Buy a choice cockerel, the best in California, and improve your flock. Eggs for hatching.

. W. HOWARD 3024 E. Main St. Los Angeles, Cal.

Emery's Pure Meat Meal

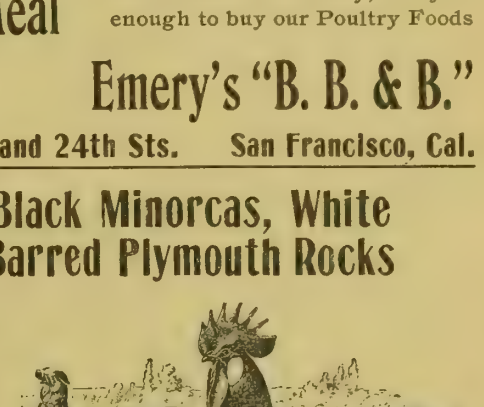
Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks



Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

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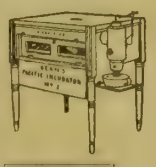

First-Class Incubators and Brooders

The "PACIFIC" is the most sensible Egg Hatching Machine yet invented and does its work perfectly without a nurse or night-watch. Send 4c for my 70-page Catalog No. 2. It tells all about them and has other practical matter on poultry raising, poultry houses, etc,, which makes the book worth a $ to anyone who keeps a dozen fowls.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec. 16, '03.

Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yours truly,

Mrs. A. N. Zumwalt.

Address **Wm. B. Dean,**

929 E. 25th St. Los Angeles, Cal.

WHEN WRITING TO ADVERTISERS PLEASE MENTION CULTIVATOR

ADVANTAGES OF PURE BREED.

A friend and I have a way of getting around a warm fire, and talking "hens," while we have our after-supper smoke. This talking "hens" is a habit which, if it once gets a hold on a man, there is no cure for it. It is born in some men and never can be got out of them. It is harmless, though, and gives its victims no end of pleasure. It is more soothing than pipes, more comrade-making than playing cards, and it draws friends into closer touch than mystic societies and the midnight riding of imaginary goats. We who live in this Golden Age never tire of comparing our happy lot with the backward condition of our forefathers. We need not go further back than half a century to see the striking contrast between our poultry and our ways and means of raising them and theirs. My friend is in favor of the "dry feed" method, and I of the mash or mixed feed. His method is gaining favor with many poultry men, and he has fine luck in raising his chicks, but I have the larger egg yield, and raise ninety per cent of chickens hatched. In warm weather I think the "dry feed" is the best, for at that time nature is a bounteous provider, and if the fowls have half a chance they will find plenty of material for eggs, and food that is best fitted to produce healthy chickens, but when the cold weather is with us the green stuff and the bugs are things of the past and then we must take a hint from nature and supply our fowls with a good substitute for bugs and green grass, and this can be done better, I think, with a mash or mixed feed. By a mash I don't mean soft and sloppy food, which ferments in the crop, and causes indigestion and "hard luck," but a stiff mixture of ground grains, animal food and vegetables. This feed once a day. I think morning the best time—with hard grain the other feeds, bring the best results with me. My friend admits that a larger egg yield can be obtained from feeding a warm mash, for the mash being ground, is passed into the system faster than the hard grain can be, and is thus earlier converted into eggs, but he claims that soft feed will reduce the fertility and vitality of the fowl. I know that one has to be more careful in feeding soft feed, but as we are both doing well with our flocks we shall probably go on talking and feeding in the same old way. There is one thing that we agree on, and that is the point of using pure bred, healthy and vigorous male birds, and that a pure bred flock of birds on any man's farm shows enterprise and good management. Most any farmer will admit that he has the best place for the rearing of poultry, and while it is true that every farmer should be stocked with good blooded poultry, it is also true that not one farmer in ten has anything much better than scrubs. Many up-to-date farmers keep blooded cattls and hogs, and know they are the best money bringers, but they won't pay the price of good poultry nor give the fowl the right houses and attention. The farmer has plenty of room for buildings and yards, an abundance of different varieties of feeds, and he will find that pure bred poultry will do more than "buy groceries," they will pay a larger per cent on money invested than will his blooded cattle or hogs. Give the thoroughbred bird a trial, their eggs hatch better, the little chickens are healthier and easier to raise than the scrub kind, and when ready for market we find their legs are yellower, the pin feathers fewer, and the flesh heavier and sweeter, and we notice the difference in the weight of the purse when we receive the cash. If you have a flock of pure bred poultry on the place they will be an object lesson to all neighboring poultry keepers, and one that they soon would imitate. A farmer is not obliged to give up his garden for his poultry, he can have both. The old fashioned idea that a chicken must have a whole farm to range over to be strong and vigorous, is dying out. "Free range" many times means a great deal to growing chickens, and too often means very little. Many chicks on a free range are worse off than those in yards—for they are expected to pick up their own living, and they get next to nothing, and many start forth in the morning that do not return at night—between too much range and too little yard room there is not much choice. Good, roomy houses and yards give the best results, for you have your flocks right where you can keep your eyes upon them and note their condition. Exercise is needful to keep the system in good order, but too much is not a good thing. Runs are of little value if they are small and crowded, but if they are large enough for green stuff and shade, I believe that more good comes from runs than on a free range. Never overcrowd your houses or yards, cull out your chicks as soon as they are large enough to show their good or bad points. When your corn comes up too thickly in your field, thin out the weak stocks so the thrifty ones can make good growth. Do the same thing in the chicken yard and your birds will be more vigorous and thrifty. Remember that the chicken business is "all right"—there never will be a trust in it nor will it be cornered.—C. W. Bixby in Poultry Success.

RATS IN POULTRY HOUSES.

Rats are always a nuisance about poultry houses and frequently cause great losses when the chicks are growing. Around a farm the rats sometimes find so much to eat that they will not touch chickens, but if they once get a taste of a spring chicken they will thereafter ignore other food when chickens can be had. We have seen rats drag down half grown fowls. It is not unusual to have these losses go on for some time without the owner of the establishment realizing the cause of the disappearance of his pets. The problem of getting rid of the rats then becomes the chief one. Big wire traps are serviceable, and sometimes these are effective. If there are only two or three rats these may generally be caught in the course of a week, if the trap is properly baited. But where there are a good many rats about a place the rodents soon understand the purpose of the trap and refuse to go near it, no matter how well baited it may be. In

$5.00 PER 100
BARRED ROCK EGGS
Choice mating, $1.50 per 13
BUFF LEGHORN EGGS
$1.50 per 13. Prize winning stock
LINDGREN & SONS KINGSBURG, CAL.

THE NATURAL HEN INCUBATORS AND BROODERS
Points of Merit That Are Causing Such Large Sales of These Machines All Over the U. S.:

A continual circulation of pure, fresh, warmed, moist air in every part. Chicks can regulate their own wants as to heat and air by having a range of from 60 to 100 degrees to go into. Chicks will not crowd, as they have warm material to place their backs against similar to the old mother hen. No chilling or overheating. Lamp fumes or gasses entirely separated from chicks and fresh air. Brooder can be heated up in fifteen minutes in any season. The most economical on oil of anything in the shape of a brooder. One filling of lamp—3 quarts of oil—will last from five to seven days in mild weather. The incubator is guaranteed to hatch chicks as strong as the hen can. The only brooder that has and is capable of raising 100 per cent, not only once, but time after time. Our catalogue and book combined will explain more of the merits that have made these machines famous. Send for it. Mailed on receipt of 10 cents in stamps. It has helped thousands to success that have previously failed with other makes.

F. S. LOW & CO.
PETALUMA CALIFORNIA

Barred Plymouth Rock Eggs for Hatching
1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15
MRS. Z. A. WOLLAM,
W. CENTRAL AVE. RIVERSIDE, CAL.

BARRED PLYMOUTH ROCKS
THOMPSON'S RINGLET STRAIN
Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.
A. A. Clapp - Alhambra, Cal

Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
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Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
757 N. LAKE AVE., PASADENA, CAL.

EGGS FOR HATCHING
From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
T. E. Mills - Lordsburg, Cal.

SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904
There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders and all kinds of Poultry Supplies. In fact, it is a encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
C. C. SHOEMAKER, Box 718, - Freeport, Ill.

Largest Poultry Supply House in the United States
YOU DON'T NEED TO
Stay Up at Night
In order to have successful hatches when using the
IMPROVED LOS ANGELES INCUBATORS
Self Regulating
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Most Economical
FREE—1904 Catalogue—Free
Darling's Genuine Beef Scraps
HENRY ALBERS - 315 South Main Street Los Angeles, Cal.

There May be Other Chick Feeds, but People Do Not Want Them
I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.
The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.
Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.
GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

this case about the only thing left seems to be poison. It is always inadvisable to use poison if it can possibly be avoided, as accidents may occur from the presence of poison about the premises. If poison must be used, some form or mixture of phosphorous can be employed to advantage. When mixed with bread or spread upon it the rats will eat it with avidity. The commercial electric pastes, which can be had in every drug store, contain phosphorous, and are the easiest to use in poisoning the rodents. The paste should be spread on bread and the bread put into the holes where nothing but rats will get it. The rest of the paste should be thrown away, buried, or burned, so that children will not get at it.—Poultry Review.

LICE ON POULTRY.

Dr. Smead, a well-known veterinarian in the New York Farmer, has the following about lice on poultry:

"Now, I am going to ask a question and answer it myself. Why is there any more sense in a hen being tormented with lice than a horse or any other animal? The answer is there is no more sense in one case than the other. The lice on every domesticated bird or beast we have no use for, and there is no sense in allowing them to exist. Now I am in it, I have got to tell how to get rid of the lice on the hen or own up and slink out. Well, I shan't slink out. A pound of pyrethrum powder (called also Persian insect powder) cost about 40 cents; a small hand bellows costs on the 10-cent counter of any store 10 cents. Thus we have a 50-cent outfit and lice killer enough to destroy as many lice as the proposed large canal will cost the taxpayer dollars, and that is not a few. Now comes the worst feature of it all. The hen will have to be caught, and that means labor; and the hen labor most men abhor. Some, I know, have a horrible cold, or an awful lame arm, leg or back every time the good wife suggests that the hen house needs cleaning. It, as a rule, would not take 30 minutes' time once in two weeks; but it is such trying work that most men fear an attack of pneumonia or lumbago if they should tackle it. So it goes uncleaned, and the old hen spends a sleepless night from lice torment; has croup from the gases arising from her own lung, and gets cursed for not laying eggs and for leaving the nest before the chickens hatch. I am not applying this to your case; but I am telling for some fellows I know. It is a little work, with a common sense application of the insect powder to the old hen that brings comfort to her and puts eggs in the nest. Yes, brings peace all around and profit in plenty.

"The old bird must be caught and the powder thoroughly dusted through her feathers—yes, thoroughly. I want the nail thoroughness driven into the brain of every man who thinks enough of this to try prescription. Her wings must be raised and a puff and several puffs given of the powder right there. Yes, every part of her body must be saturated with the powder. In a week give her another powdering. There will be funerals in the louse family; but there will be happiness in the hen tribe; with a near-by crowing and cackling; with a nest full of eggs shortly to follow where none had been for weeks."

Remember that roup is more often caused by a crack in the roof of a hen house than from any known cause. Ventilation should be from the floor outward, or up through an air shaft purposely constructed.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

After many weeks' delay we have a copy of this new book on our desk, and have sent many copies out to subscribers. We believe every poultry raiser (whether new or old timer at the business) in California can obtain many times the cost of the book in practical hints. The book contains the experiences of five years' work in the poultry yard, contending with conditions as they obtain in California.

The price of the book is $1.25 postpaid. It is cloth bound, profusely illustrated, and contains about 125 pages. We would like next week to send at least 100 copies to Cultivator poultry raisers. Send us your orders.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

POULTRY THE YEAR 'ROUND.

The poultry business is an all the year occupation and not confined to one period only. To look for a profit in the winter and spring and allow the really best seasons of the year, summer and fall, to be overlooked, is to expect a profit at the time when it is more difficult to manage and greater expense is incurred. The reason that the winter is regarded as the best season is because prices are then higher, but the cost is also more and fewer eggs are secured. The summer is the best time with hens, but the majority of farmers are disposed to disregard the facts which are presented and fail to take advantage of the season. It is true that as the fall approaches the hens begin to moult and cease to lay, but in so doing they are preparing for their winter work, getting ready, as we may say, and there is, consequently, no lost time in that direction. The hens that do not lay and do not begin to moult are the most unprofitable, the cause being due to their being overfat or afflicted with lice. There is no remedy but to remove the cause, whatever it may be, and all the condition powders or egg foods ever introduced will not be of avail. If the hens are too fat the food must be shut off. If lice is the cause, the vermin must be cleared out. It is natural for the hens to lay and when they do not produce eggs in the summer or fall the cause should be investigated. When eggs cease to come in the farmer sells his moulting hens, which is just where he makes his greatest mistake. The ones to dispose of are those that are fat and in high condition.—Farmers' Sentinel.

Keep an old gander, says a practical poultry raiser, if you would protect young chicks from their enemies in the shape of dogs, cats, crows and magpies. The gentleman will be found of great use, shifting all objectionable characters with commendable promptness. Not only will intruders be smartly looked after, but the gander will make as much noise as possible while performing his duty, thus giving the poultry keeper and game rearer warning when all is not right.

The experience of communities where municipal ownership of water works and lighting plants exist is universally in favor of the plan. Alameda, Santa Rosa and other towns in the State where the people own these public utilities are a unit on the value of the scheme. Recently the editor of the Santa Rosa Republican was approached on a proposition from San Francisco to negotiate a sale to private parties. Editor Lemmon told them he is sure that the people would not consider a sale, not even an offer of a million dollars would be a temptation.

NOW IS THE TIME TO HATCH
FIRST-CLASS EGGS FOR SETTING, $1.50 FOR 13
S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS
Eleanore Poultry Ranch
M. E. BROWN, Prop. 1½ Miles East of Glendale. P. O. Address, Garvanza
ALL STOCK BRED FOR SIZE AND EGG PRODUCTION ONLY

White Plymouth Rocks

If you are after first-class White Rock eggs, you ought to see my stock before buying. If they don't suit, don't buy. Send for a circular if you cannot call. Closed Sundays
Chas. T. Youngken
151 East Ave. 55 Los Angeles, Cal.

Darling's High Protein
BEEF SCRAPS
Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.
Farmers and Stockmen
All Use
Prussian Stock Food
We Carry a Full and Complete Line
GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

Albers' Black Minorcas
Have now taken more prizes in California than any other three strains of this breed; lay better than any other strain of any breed; produce a uniform offspring with rich green lustre, standard size, handsome head points and matchless vigor.
EGGS COCKERELS CIRCULAR
GEO R ALBERS
4849 Marmion Way Los Angeles, Cal.

Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen
Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders
T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART VI.

A Story of a Model, Up-to-Date Poultry Plant.

This the sixth part of our story describing some of the largest and most successful poultry farms. This chapter will be a little change from some of the preceding chapters in that it is not quite so large as some of the other places, there being only 17 acres, but being close to Petaluma it is more valuable. The buildings alone on this plant being worth nearly $10,000. This place is owned by H. C. Scrutton.

Mr. Scrutton is secretary of the A. R. Coulson Co., and all fowls on this place are fed on Coulson's Balanced Rations. 1,500 pure bred White Leghorn hens are on this place and eggs are sold for hatching purposes.

Note in another picture the fine appearance of the hens.

About 800 White Minorca chicks are being raised here for the A. R. Coulson Co. and of course they are fed on Coulson's Chick Food.

Mr. Scrutton is also secretary of the A. R. Coulson Co.

Mr. Scrutton has everything up-to-date on his place. The hens are all penned into yards, about 200 in each yard. There are 1,500 pure bred White Leghorn hens and the eggs are sold for hatching purposes through the A. R. Coulson Co. These eggs are shipped to different poultrymen in various parts of the Pacific Coast. Mr. Scrutton sometimes has orders for as many as 3,000 eggs for one shipment. In incubator lots these eggs can be had for 15 cents per dozen above market prices; in smaller lots the price will be more; for further particulars write to A. R. Coulson Co., Petaluma, Calif.

Gathering eggs on H. C. Scrutton's place. Hens are fed on Coulson's Balanced Ration Egg Food with splendid results.

The hens are fed on Coulson's Balanced Ration Egg Food and reports from parties who have used some of the eggs state that not more than one out of a dozen proved unfertile.

Young hens are mated up with old roosters and the older hens are mated up with young roosters, about one rooster for each fifteen hens.

One poultryman who purchased 180 dozen (2160) of these eggs a few months ago says that they hatched out over 90 per cent and that they are the strongest, healthiest, spryest lot of chicks that he ever had. One party by the name of Harnish and O'Brien, who are located a few miles below San Francisco make a business of raising broilers for the San Francisco trade and they keep 10 incubators going and about every three weeks they take out 3,000 of these eggs.

Mr. Scrutton also has 3 good sized incubators himself that are kept going right along and at the present time he has several thousand young chickens of the White Leghorn variety and also he is raising for the A. R. Coulson Co. a few hundred pure White Minorca chicks. All chicks are fed on Coulson's Chick Food exclusively.

This is the picture of a first prize White Minorca Rooster that was raised on Coulson's Chick Food.

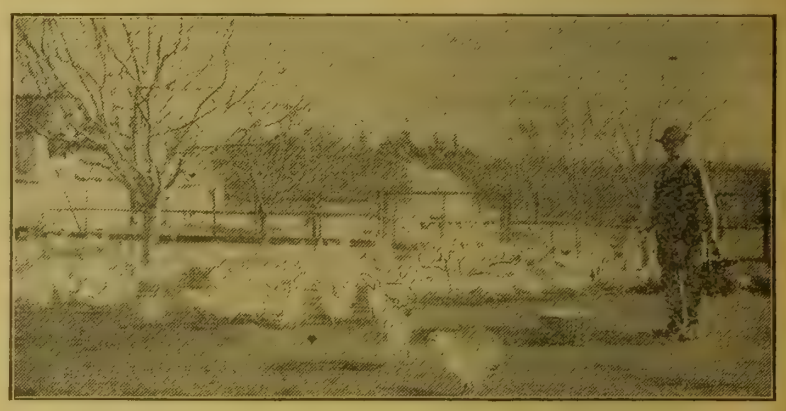
The White Minorca is the coming bird. In a few years nearly all the poultrymen will be raising White Minorcas instead of White Leghorns or else they will cross the White Leghorns with the White Minorcas, thus getting a much healthier and better strain of birds. The White Minorcas weigh a couple pounds heavier than the Leghorn; the comb of the White Minorca is twice as large as the Leghorn, and they are much better layers, and they are noted to be GREAT WINTER LAYERS and winter layers are the MOST PROFITABLE.

One lot of chicks on H. C. Scruttoin's place, one week old, fed on Coulson's Chick Food.

The White Minorcas are also fine table birds. The meat has a fine flavor and they have more solid meat on than the Leghorn, therefore, they would be more profitable birds to raise for market, and especially for those who furnish broilers and friers to the city trade. And again the White Minorca is a much prettier bird than the Leghorn, and they are also great pets; they are tamer and not so scarey as the Leghorn. Poultrymen who are now raising White Leghorns should get a few White Minorca roosters this fall and the cross will make a prettier, healthier and stronger breed of birds. Fur further particulars, write to A. R. Coulson, Petaluma.

All poultry on this place are fed on Coulson's foods. The laying hens are fed Coulson's Balanced Ration Egg Food and the young chicks on Coulson's Chick Food.

All poultry houses are cleaned every day and about twice a week all are thoroughly sprayed with Phenolene and Coulson's Lice Killer. (This is done not only to keep down the lice, but by disinfecting so often and keeping the houses clean and in sanitary condition, the poultry thrive better and lay so much better than they would if only sprayed once a month.



The attendant gathering eggs on H. C. Scrutton's poultry farm. Results from feeding Coulson's Balanced Ration Egg Food. Healthy hens and plenty of eggs. 800 eggs every night from 1500 hens. Note the nice, healthy appearance of the hens. Coulson's foods are fed exclusively here.

Young chicks can be fed on Coulson's Chick Food exclusively until they are two months old for an average cost of about 8 cents a piece.

Mr. Scrutton has just sold 500 roosters at the age of 8 weeks old for $4.25 a dozen.

Laying hens can be fed on Coulson's Balanced Ration Egg Food once a day, giving them all they will eat, at a cost of from 10 cents to 12 cents per hundred hens.

Coulson's Egg Food and Coulson's Chick Food for sale at feed stores or if not, send to us and we will ship by freight. Price of Coulson's Egg Food, $1.65 a sack, Coulson's Chick Food, $2.20 a sack f. o. b. cars Petaluma.

A. R. COULSON CO.,
Petaluma, Cal.

To be continued.

One of A. R. Coulson's White Minorca roosters.

General Agriculture

THE CODLING MOTH.

How to Prevent Wormy Apples.—We have just received from our Agricultural Experiment Station at Berkeley a copy of Bulletin 135, entitled "Directions for Spraying for the Codling Moth," which is the first of a series of bulletins giving the results of the investigations conducted the past season in the Pajaro Valley.

The writer, Professor C. W. Woodworth, has demonstrated that the insect can be controlled under a great variety of climatic conditions, so that the loss is reduced to a very small percentage. This cannot be done by following blindly the same program of operations in every district. Indeed the best results may even require a somewhat different course of treatment on successive years in some localities.

The bulletin contains very explicit directions for obtaining the facts upon which the proper timing of the treatments must depend. Growers should not have any difficulty in making the observations suggested.

The production of wormy fruit should not be tolerated when it can be avoided by the proper attention to the details as here indicated. Copies of this bulletin can be had by applying to the Agricultural Experiment Station, Berkeley, California.

ALFALFA TEN FEET IN HEIGHT, SIX MONTHS' GROWTH. Courtesy Imperial Investment Co

GROWING ALFALFA IN CALIFORNIA.

In a letter to Hoard's Dairyman, an alfalfa grower, near Monterey, California, presents his way of growing the grass under irrigation. Reading the article with care will develop a clear idea of how the ground is prepared, the seed sown and the water used to insure a successful crop. The letter may be read with profit and is here quoted:

I will try and tell you in a brief way the way we grow alfalfa in California under irrigation. In the first place we level our land as near level as we can, and we use a civil engineer's instrument, and when we get done, it is very nearly as level as a floor. I put my land in checks with a levee around every quarter acre. In the winter we irrigate from the river, using the flood water to soak up our land; we put from 24 to 30 inches on; with what water we get from the rain, will make us two good crops. Then in the summer we use a pumping plant to pump our water, and we put on about six inches for each crop, and by not pasturing the land any, but by cutting and feeding green, we can cut six crops a year, and have good pasture all winter.

We sow our alfalfa here any time, but it is the best sown in the spring, say March; some sow with a nurse crop and some without. I sow 20 lbs. of alfalfa seed and 20 lbs. of barley. I sow the barley to shade the ground to keep it from baking, for just as soon as the alfalfa is large enough to stand it, we put about six inches of water on it, and if there was nothing to shade the ground, it would bake so hard the young alfalfa would not grow, for the softer and finer the ground the better.

We never let our alfalfa come to the bloom here before cutting, but always cut when it is in the bud—or I will tell you how you can always tell when it is ready to cut. Take the top of it and roll it in your fingers and if the water runs out of it you let it stand until when you mash it, it will be damp, but no water runs out, or take near the bottom and try it by chewing it and if it is tough and the fibre is stringy, I always get the mower in as soon as possible.

I will say this, if you want to see alfalfa grow to perfection, why just come to California—the dairyman's paradise, where you don't have to keep your cows shut up in the barn all winter, but can let them run on green pasture and have all the good alfalfa hay they can eat. I also grow about three acres of carrots and they yield something wonderful, about 70 or 80 tons per acre.—R. W. Mitchell.

SORGHUM FOR HOGS.

H. F. Grinstead in Coleman's Rural World: I am not one of that class of farmers who are constantly looking for a substitute for corn. In fact, I have as yet never found anything that I considered equal to that king of cereals for either hogs, cattle or horses, and if I had to confine myself to one kind of feed on the farm it would be corn. However, there are seasons when corn makes a low yield and some other crops do well. The season just ended was such a one. Sorghum, planted after it was too late to mature corn, and on thin land, made a good yield, much better than did Kiffir corn planted at the same time.

Now, about feeding hogs on sorghum: Of course the reader will think I have reference to green sorghum only, but right there you are mistaken. I feed sorghum that was planted in rows, cut and shocked. To any one who has had little experience with cane, it would seem about like feeding corn shucks or prairie hay. By examining sorghum that has been allowed to mature and was put in the shock in good condition it will be found that there is now enough juice in the larger stalks to make syrup, which has as pure cane flavor as it had the day it was cut. Not so much water in the juice, but as much saccharine matter. My hogs that are fed all the corn they will eat, devour the cane with avidity when they can get to it. In fact, they pull it off the top of a low shed I made to shelter them using sorghum for a cover, it being about the most plentiful material on the place. Sorghum seems to act as a tonic besides furnishing more nutriment than probably any other cured forage, with the exception of alfalfa.

I have tried rye, rape, clover, sorghum and alfalfa for hogs' pasture. I would put alfalfa first in value, but where that cannot be successfully grown, I would recommend sorghum, turning the pigs on as soon as it would hide a rabbit. It would be better, though to wait longer if you have some early pasture. as oats, to keep them on. I would keep them on sorghum till frost.

There is no crop that will furnish near the amount of feed on poor land that sorghum will, and it is above all the renter's friend. If the pasture fence is not hog proof, an acre fenced off with woven hog fence will keep several sows and pigs in green food for five months. The same amount put in shock will answer the same purpose through the greater part of the winter. However, I do not wish to be understood as favoring the feeding of all the good sorghum fodder to hogs if there are any hungry cows on the place, for I believe a cow can come nearer getting all there is in it—but that is another story. I am somewhat of a "crank" on feeding sorghum. I give it to everything on the place—horses, cows, hogs, chickens and even to the good wife and babies in the form of syrup.

I sowed some broadcast, and another piece I planted in rows the last day of June, on land that I couldn't get planted to corn. The entire piece made about four tons of dry fodder per acre, while a patch of corn adjoining and planted the same day, made probably fifteen bushels of soft nubbins. I usually plant earlier. Oat stubble can be seeded to sorghum and make a good yield, but will probably fail to mature seed.

REMOVING FRAMES.

Beekeeper: In removing frames the first impulse is to pry the frames apart that the projecting fragments of brace-combs on the top bars of the frames adjoining the one lifted out do not scrape its surface. But in most cases this can not be done. Then, when the frame is lifted up, bees are caught and crushed between those fragments and the comb of the one that is being lifted. If the combs are reasonably straight, this may be avoided by a little care. Suppose we call three adjoining frames A, B and C. We desire to remove B. The first step is to sever the brace-comb connections with a knife, not half-way between B and A, and B and C, but close up to the top bars of A and C. Then, when B is lifted up, all the brace-comb connections rise with it and are at once out of the way. But, of course, this is fussy work.

It will pay any man to take every advantage of the grass and weeds. By never letting them get a start of you, you can easily manage them. The weediest fields in a country can be subdued if the proper precaution is taken. A good sharp toothed harrow dragged over the field often before the plants come through the ground will kill the most of them.

CALIFORNIA'S THANKSGIVING.

O Soul, be still! Heart anguish cease!
From distant lands come words of peace.
Spring is here like a glowing thing,
Its incense floats on tireless wing.

Now comes from clouds with fleecy train
The benediction of the gentle rain,
From other climes the love-bird tarries here;
Their song and chatter fill their hearts with cheer.

O Power, we thank thee for these gifts divine;
Our land so prodigal, our lowing kine,
Our harvest planted with April meadows green,
And all the blessings of this land serene.

We thank thee for rich bounties given;
For love that breathes of home and heaven;
We thank thee for all thy care doth give,
"But most of all, we thank thee, that we live."

—Rose L. Bushnell-Donnelly.

How Jack Got Mother's Birthday Gift.

"Mother, what do you want for your birthday?" asked Jack. He was very solemn and very much in earnest. He had only five cents, but he hoped his mother did not know it. She did, though, so she answered accordingly.

"Oh, I want two things very much. A pretty rose and a silver thimble. I think father will buy me the thimble, so I do hope some one will be kind enough to remember the rose." Jack listened, and then went about his business. He knew that he could buy a rose for five cents. Mr. James, the florist, was very accommodating about flowers and prices, but Jack longed to give mother the thimble. He had given roses and flowers so often, and if he gave the thimble now, father would have to think of something else, then mother would have a real surprise. Jack hoped the thimble would be only five cents, but when he went around to Mr. Conroy's, the jeweler's, he was doomed to disappointment.

The store was empty when Jack went in, and Mr. Conroy, with a magnifying glass in his eye, was rubbing a ring on a piece of chamois.

"Please, sir, how much is a silver thimble that would fit a lady that isn't very fat, but isn't very lean either?"

Mr. Conroy dropped the glass out of his eye in sheer surprise, then looked wildly around him. There was no one in sight.

"Here I am," said Jack from below the counter line.

Mr. Conroy leaned over, gazed and then gasped: "Say that again!"

Jack repeated his question, and Mr. Conroy looked as if he were going to have a fit. But he showed Jack a beautiful one, warranted to fit a "mejum" lady, and said it was one dollar and eighty-nine cents.

Then Jack nearly had a fit. But he managed to escape to the curbstone, there he sat down to catch his breath and get his bearings. One dollar and eighty-nine cents! Did ever a boy on earth have as much money as that? and yet—here Jack glowed and beamed. Suppose in some way he could get the thimble, what a perfectly superb present it would be for a small boy! And how mother would love it. Could he get the money? He thought and thought, and was about giving it up, when the wind helped him out. It blew his rich yellow curls over his eyes, and then he thought of a conversation he had heard at home the day before.

"Isn't Jack pretty nearly old enough to have his curls cut off?" asked father. "He looks like one of those French dolls."

"His curls!" shrieked mother, "his curls! John, how can you say such a thing to me, his mother?"

"When you do have them cut," put in Aunt Dora, the sensible, business sister of Jack's pretty mother, "take him to Mr. Isaacs. I was there yesterday to have my hair singed, and he said he had taken a contract to supply children's hair to a big doll manufacturer. They make doll's wigs. Jack's hair would bring a small fortune!"

"Dora!" mother had groaned, "you mercenary creature! I would want something very much before I would consent to have Jack's curls go."

"Well, it's time they went!" said father, and that was all.

As Jack sat on the curb everything became clear and connected. Mr. Isaacs was on the next block. He had often trimmed Jack's bang. Mother did want something very much. She wanted a thimble, and it was time the curls went. And goodness knows, Jack would be glad enough to have them go! So up Jack got, and with the air of a hero of old he walked into Mr. Isaac's store, and that worthy gentleman was alone and idle.

"Good day!" said he. He talked very funny, and rubbed his hands a great deal, but he seemed to like little boys.

"I've—I've come to have my curls cut off for dolls!" It took Mr. Isaacs a long while to unravel the mystery in that sentence, but Mr. Isaacs was a shrewd business man, and after asking a few questions he got to the root of the matter.

"Your parents know?" Jack thought parent must mean his father, so he said:

"Oh, yes sir. Father said it was time."

"And you want to sell the little curls?"

"Yes, sir."

"Umph!" There was a pause. "You want a great deal for them?"

"Yes, sir."

"Umph!" Mr. Isaacs began pulling the bargain; but as the bargain was still attached to Jack's head, the pulling hurt.

"Not very fine hair! Almost too wishy-washy!" mumbled Mr. Isaacs. "How much you want?"

"One dollar and eighty-nine cents!" promptly replied Jack. So promptly, indeed, that Mr. Isaacs thought his mother must have named the price, and it was so moderate that the man popped Jack in a high chair before he could wink.

"Snip, snip, snip!" went the scissors, and down the pale, golden locks fell. Jack looked in the glass, and he saw a strange wild-eyed boy gazing back. Then he realized that all was past. All hope of familiar good looks, all, all! But instead a cool freedom hung over him. He saw distinct visions of long trousers and a vest. Indeed, Jack was a real big boy, and his manhood rose within him.

When he was planted on the floor once more by the pleasant Mr. Isaacs, he had one dollar and eighty-nine cents in his hand, a feeling of independence in his heart, and a dreadfully shorn and sticky feeling on his head.

He ran on the legs of love back to Mr. Conroy's and he piped grandly:

"I want that mejum-sized thimble." Mr. Conroy leaned over the counter.

"Another boy for a thimble?" said he. "Dear me! there must be a sewing society in town."

"I am the same boy," explained Jack, proudly. "I've had my hair cut!" And then Mr. Conroy said feebly:

"Great balls of fire!" But he handed out the thimble, took the money, and advised Jack to "break it gently to his mother!" A remark which Jack did not in the least understand.

So happy was Jack in his victory that he forgot all about his head, and he ran into mother's arms crying:

"Here's your thimble, you blessed mamma, and many happy—"

He got that far, when an ear-splitting shriek stopped him:

"My child! My child! My poor shorn lamb! I shall never forgive your father!"

This was cruel, as the absent father knew nothing about it. The cry brought Aunt Dora to the room, and when she saw Jack she sat down in a heap on the floor and said in a whisper:

"Bless my soul! The child has done it now!"

Then the whole story came out. Aunt Dora laughed, mother wept and kissed the thimble and Jack alternately, and in the end both ladies grew serious and deadly rigid. They said Jack was a darling, but that they were going to see Mr. Isaacs. And somehow as they went out with that look upon their faces, Jack found only pity in his confused heart for Mr. Isaacs.

He never knew the details, but he knew that his curls were in a box in mother's dressing table. And that evening, when father heard the story, he said he would give mother an opal ring for a birthday present, and he would take them all to see "The Wizard of Oz," and in the meantime he thought he would go and get a shave at Mr. Isaac's place.—Mary Alden.

COLD BATHING.

The application of cold to the surface of the body by the means of the bath is a powerful agent, the value of which in the treatment of disease as well as in the preservation of health is being increasingly realized.

The action of a cold bath (from 50 to 60 degrees) is stimulating and tonic. It acts powerfully upon the nervous system, making the nerves more prompt in their response to the needs of the organism, and freshens the mental faculties to a wonderful degree. It banishes the dull and listless feeling which one who is not in the robust health of youth is so apt to experience on first getting out of bed. It exercises and strenthens, also, the muscular walls of the arteries, upon which the normal action of which the proper distribution of blood throughout the body in great measure depends.

The devotee of cold bathing seldom suffers from cold in the head, provided, of course, he does not violate the ordinary laws of hygiene as regards eating, sleeping and ventilation; and if he does take cold, he is in condition to throw it off before it invades the bronchial tubes or lungs. Sufferers from poor circulation, which shows itself by cold feet and icy fingers, are

Nobby Sack Suits

The new loose-cut sacks, designed for men who want to keep a little ahead of the procession, are either very swell or the reverse—depends on how they're tailored. Ours will bear the most critical inspection of men who have the custom-tailor habit—the quality of the cloths, the character of the cut, the careful, painstaking tailoring are above reproach.

$15 to $37.50

London Clothing Co.
HARRIS & FRANK
117-125 N. SPRING ST.
Los Angeles, Cal.

ASK THE MAN...

Who travels frequently between the Pacific Coast and the East—what road he generally uses and prefers. The chances are that he will tell you—"Santa Fe." There's a quality about the service and an attractiveness in the fast time and fine equipment of this great line that appeals to the frequent traveler. He wants the best and knows by experience where to find it.

The occasional traveler—who perhaps takes a long journey once in several years—may profitably follow the other's example and select the Santa Fe for his Eastern trip. The service leaves nothing to be desired—it is the best possible—in all respects. Ask the agent at Santa Fe station for information and a tourist car booklet—if economy is an object. If not it will interest you anyway. He can tell you about the palace cars too.

ASK THE MAN

Tourists
To California

Should visit Riverside. It is one of the most beautiful cities in Southern California. Set amid Orange Groves, where life is luxury every day in the year.

Its chief hotel, the New Glenwood, is a marvel of comfort, built on the style of the old California Missions, with equipment and surroundings artistic, picturesque and satisfying. The short and direct way to Riverside from Los Angeles is via the

SALT LAKE ROUTE

The finest equipped railroad west of the Rocky Mountains. Four vestibuled trains daily.

For illustrated folders and other information write to Agents.

SALT LAKE ROUTE

benefited by the morning cold bath, and this, in the case of one who habitually has cold feet, may be profitably supplemented by a cold foot-bath at bedtime, followed then, as always, by the brisk rubbing with a coarse towel.

STATE FLORAL SOCIETY EXHIBIT.

"If I had two loaves of bread I would sell one and buy hyacinths," and if one were not specially hungry the spring show of wild and outdoor grown flowers by the State Floral Society might have induced the selling the other loaf to buy daffodils.

The annual show was held last week in the nave of the Ferry building and was given liberal encouragement by the people of San Francisco. On Friday and Saturday evenings the nave was packed so that it was almost impossible to get a good view of many of the displays. It was the pleasure of the writer to see the exhibit, which is worthy of all the encouragement it received. This statement is made with the knowledge that the display was by no means up to those of some of the former years. This was because the professional florists of the city ignored the show because of friction over the support which the society gave to the flower sellers who have for years vended their wares on the street at the corner of Market, Kearney and Garey. The large florists wished to oust them and the members of the society wished to maintain them, on the ground that it is, and has been for many years, a picturesque feature of the city.

But, regardless of the merits of the contention, the aims of the Floral Society are such as to call for hearty support.

Besides, there were many most creditable exhibits. The exhibits of wild flowers were most striking and in number of varieties was a surprise to one not conversant with the varieties native to the State.

The California Nursery Company had an exhibit of flowers from ornamental and flowering trees; also from bulbs.

Bulbs, by the way, furnished the most striking displays. The Leedham Bulb Co., of Santa Cruz, had a magnificent display of Narcissus, Daffodils and Jonquils, same as we used to see them in our mother's garden and on up to wonderful creations, the poet's Narcissus, Emperors, Barrii, Conspicuous, and others of great size and beauty. The time for planting these bulbs is in July, August and September, when the Cultivator will have more to say regarding the varieties, culture, etc.

Messrs. Leidham & Co. have over a quarter of a million of these bulbs now in the ground.

Eventually, it is not improbable, asparagus growing in California will rival fruit growing. Nowhere else in the world does this vegetable grow so well as in the rich bottom lands of the delta of the Sacramento and San Joaquin. It is a product for which the market is practically unlimited; the supply has never so much as approached the demand. But in spite of this, where one acre of the best asparagus land in the world has been reclaimed, there are hundreds which are still given over to tule and swamp, but which with the modern facilities for dredging and dyke building can now be reclaimed at comparatively little cost.—Sacramento Union.

"The rich lands of the Sacramento and San Joaquin river bottoms, and especially of the delta at the mouth of the two streams, will eventually be held the most valuable in the State," says the Sacramento Union. Dr. Albert Shaw, editor of the Review of Reviews, compared them to the dyked lands of Holland that are held at from $5,000 to $10,000 an acre—that is, they yield interest on such amounts. The comparison was well made. Asparagus is not the only crop that grows on the bottom lands to enormous advantage, but the loss of half the asparagus crop of the nation brings asparagus growing on the lowlands of California prominently before the public; thousands of carloads of celery, as an example, are shipped from them annually.

Articles of incorporation have been filed for the San Gabriel Valley Country Club. The association has already secured fifty acres of land northeast of the San Gabriel mission, upon which a $10,000 club house will be erected.

Logging Scenes in Northern California

RECIPES

Eat Little, but Have That Little Good

Fruit Sandwich.—Cut graham bread in thin slices, butter; chop dried sultanas and dried figs, equal portions; spread between two slices.

* * *

Egg Plant.—Put in water and boil until soft, then cut in two, scrape out all the inside, season, take a tablespoon at a time and dip in egg and bread crumbs and fry in hot lard.

* * *

Fruit Soup.—One pint fruit juice (orange, currant, raspberry or loganberry); 1 pint boiling water, 1 tablespoon arrowroot. Sugar according to nature of fruit used. Stir arrowroot smooth in cold water, add the boiling water, then the fruit juice. When cold serve on chipped ice, with salted wafers.

* * *

Steamed Chicken.—Prepare the fowl as for roasting. Make a dressing of finely chopped parsley, 1 cup of oysters, also chopped, 2 beaten eggs, a heaped tablespoon butter, pepper, salt, 1 small cup crackers rolled. Fill the fowl as for roasting, place in a steamer over boiling water, putting a pan on top of the water beneath the steamer to catch the liquor from the fowl. Place a folded cloth beneath the steamer cover; steam until tender. Serve hot with drawn butter in which put chopped parsley. If preferred, the skin of the fowl may be removed. Use the liquor for the drawn butter. A delicate dish.

* * *

Curried Eggs.—Boil 2 eggs hard, then cool. Mix in a sauce pan 2 tablespoons butter and 1 of curry powder, over a moderate fire; put in a couple of chopped onions and fry soft, add a cup or more of broth or rich gravy and simmer until the onion is reduced to pulp. Add to this a cup of cream mixed smooth with a tablespoon flour; let boil up and add the eggs cut in slices. Heat through and serve hot.

The Fresno farmer may be short on his raisins but he is long on the rain question.—Evening Democrat.

Carney's Great Co-Operative Club $1

Send me the names of five friends or neighbors whom you believe will be interested in a journal standing for the farmer's best interests, and I will send you these five great periodicals, each of which stands at the head of its class.

Farmer's Voice and National Rural Weekly $ .60
For forty years the most earnest advocate of all things which tend to make life on the farm more pleasurable and profitable.

Wayside Tales 1.00
America's Great Short Story Magazine, 96 pages in regular magazine size of clean stories every month on fine book paper.

The American Poultry Journal .50
The oldest and best poultry paper in the world.

The Household Realm .50
For 18 years the only woman's paper owned, edited and published exclusively by women.

Vick's Family Magazine .50
The leading floral magazine of America

Regular Price $3.10 FOR ONLY $1 and five names as above

For $1.25 I will send all of above and WESTERN EMPIRE one year. Write today. Save this.

W. A. Carney 233 West 25th Street LOS ANGELES, CAL.

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IRRIGATION CONSIDERED.

(Continued from first page.)

should there be raised. The towns are small and few and far between, and one rides sometimes for miles without seeing even a farm house. Yet the 20,000,000 acres of land lying in and immediately tributary to those great valleys is at least as fertile as that at Riverside and Fresno. And were its owners to put their dependence no longer in the rains that fall from heaven, but if they would turn upon their acres the water that now runs swiftly by them to the ocean, villages, towns, cities would spring up like magic, and, where now but tens of thousands live, millions would have their habitations.

So, after all, the irrigation of ancient Egypt should be a most interesting and important question to every loyal Californian. For, from the land of the Pharoahs, the land whence Moses led the children of Israel out of bondage across the receding Red Sea, the land of mystery and ancient civilization, the land of the Sphinx and the Pyramids, the land of deserts and of dense populations, the land where Cleopatra and Anthony lived and loved—from this ancient land we may learn a lesson that will, if we will but heed it, teach us how to make our beloved California independent of the vagaries of the gentle rain that falls from heaven, and make our State more beautiful garden, a more fruitful paradise, than ever mortal eyes dared hope to look upon.

As you know, middle Egypt, from Assuan to the mouth of the Nile, some 600 miles long by 8 miles broad, contains but 3,000,000 acres, and the 3,000,000 people who live there formerly depended upon the annual overflow of the river Nile for the fertilization of their lands. But if the river rose thirty feet above low water mark, great damage resulted to land and crops, while if the river did not rise higher than eighteen feet, a drought and an absolute failure of crops was sure to follow, and famine like those of biblical times resulted. And in order to conduct the water from the flood-full river to its parched and thirsty lands, in order to raise the one crop a year upon which it depended for its very existence, ancient Egypt did just what the people of Southern California have done and what the people of Northern California must do and are about to do, viz.: irrigate.

Real irrigation means freedom from dependence on rains. It means that the husbandman can put out his crops, several of them in a year, and be sure that he can get water on the land just when his growing plants need it. It is only with this, which is the only real kind of irrigation, under which five crops of alfalfa can be grown every year, as can be done in many parts of California; it is only in this way that the orange grower can be sure of a crop. Without it there would be no Pasadena, no Riverside, no Fresno, no Los Angeles. And with it the great valleys of the San Joaquin and Sacramento, the great California—"Valley of the Nile"—will beat the whole world—bar no part of it—in all that goes to make the happy living-place of a dense and prosperous population.

Select your dairy herd and stick to it. If you can not afford thoroughbreds then get grades of the same breed, but avoid scrubs and cross breeds. Feed grain every day in the year. The benefit will come not so much at once in extra milk as it will in the succeeding years from the extra condition of your cows and the effect on their offspring, which is your future herd.

CLIMATE AND CROP REPORT

The following summary of crop prospects is reported by the Weather Bureau for the week ending April 4:

The cool, cloudy weather at the beginning of the week was followed by generally fair weather and higher temperature. Rain fell in all sections on Monday and Tuesday and again at the close of the week in the central and northern sections. The rainfall in Northern California on the 28th was reported the heaviest of the season and was accompanied by heavy snow in the mountain districts. In all sections not damaged by high waters the grain and hay crops are in excellent condition and have made remarkable growth since the fair weather commenced. The southern districts have received an abundance of rain, and the crop outlook is reported very good. Farm work has been resumed in all places except portions of Northern California. Green feed is plentiful in all sections and cattle are in fair condition. Early vegetables are in market and large shipments were made during the week. Hops are somewhat backward.

Apricots in some sections have been quite seriously injured by the continued cool, wet weather, and there has been some damage to early peaches in the vicinity of Vacaville. Other deciduous fruits are reported in good condition and give indications of large yields. No very damaging frosts have occurred during the season.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles

AN OPERATION NEEDED.

Editor Cultivator: I have a cow that has poll evil. Can you give me a cure for the disease?—R. E. Grant.

No doubt your case will require an operation. Would advise you to call a veterinary.

* * *

FEED GRAIN.

Editor Cultivator: Will it hurt a horse to feed him clover hay if you sprinkle it just before feeding, and will a horse stand very hard work on this feed?—Mrs. A. Dinsmore.

It will not injure the horse in any way if not too dusty. It is well to sprinkle a little. The horse should have a little grain if worked hard in farm work.

Garden Spot of California

SONOMA COUNTY

The choicest section of the State for grapes or diversified farming. No irrigation. Land for sale in tracts to suit. Easy terms. **OWNERS,** 420 Laughlin Building, 315 Broadway, Los Angeles, Cal.

For Sale Cheap

Four hundred fine, large, clean Valencia Lates and two hundred Washington Navels, to close out my nursery. **40c EACH.**

R. L. Rutherford Highland, Cal.

ALIAS SUMMONS.
No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

THE PRODUCE MARKETS

Los Angeles Markets.

Los Angeles, April 7, 1904.

The local markets have assumed a steady tone, which usually prevails at this period of the year. No special interest is being shown any certain line. Although there is a shortage on some stuff, the local dealers are being fairly well supplied, and even crowded with a few of the supplies.

The inferior qualities which were reported to have been marketed a few weeks past, are now being furnished in a better condition. It is reported that the late reains have put the local market conditions in a better state than if they were earlier in coming.

Prices to producers range as follows:

Butter.

B & T creamery butter has again taken a drop of 5 cents below last week's price. It is predicted that 40 cents flat per 2 lb. block, will be quoted in the near future.

B. of T. Cream', 2-lb roll		45
Valley creamery, fancy	45	
Coast Creamery		45
Cooking, per lb		22

Cheese.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	16	
Northern	14	15
Swiss	19	
Imported do	28	

Eggs.

Eggs are being more freely offered to the local trade, which is due to the warmer weather, causing a decline of 4 cents from last week's quotations. It is predicted by local dealers that this price will not hold long as there is thought to be a large supply in the country.

Fresh ranch	18	18½
Store, case count	17	

Poultry.

Cold storage stock is being substituted, there being scarcely any fresh goods offered. It is thought, however, that the price will be lower soon, as eggs get lower. Producers will take advantage of the high prices. Spring chickens will be real late this season, the price of eggs has been too high for setting.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

The best varieties of potatoes are commanding high figures. Local sweets are very scarce now, being quoted at $3.25.

River, per cwt		1 75
Oregon, do		1 85
Local Sweets, white		3 25
Early Rose seed	2 25	
Pinkeye, do		1 60
Nevada Pearls, do		1 75

Vegetables; Mixed.

Vegetables are not coming in as plentiful as desired. Cabbage is reported to be very scarce, and the quality is not of the best. The asparagus crop is limited this season, as a result of the rust, which has damaged it a great deal in the growing sections. The price is advancing.

Rhubarb is now being quoted at a more reasonable figure. The demand is increasing as the price gets lower.

Onions, Nevada, fancy	4 00	
Beets, per 100 lbs	1 25	
Cabbages, do	1 50	
Green peas	03	04
Lettuce, per sack		40
Tomatoes, 25 lb crate	1 50	
Celery	25	30
Hubbard squash, per ton	15 00	
Carrots, per sack		85
Chiles, string		75
Chiles, green, per lb	10	
Rhubarb	1 00	1 25
Cauliflower, per doz		35
Asparagus	06	10

CITRUS FRUITS; FRESH

Oranges, lemons and apples are moving fairly well with no change in market quotations.

Fancy, 126s, per box	2 00	
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 50	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs.	1 00	1 50
Strawberries	12	15
Loquats		05

Fruits; Dried.

Dried fruit unchanged. Demand only fair. Prices range as follows:

Apples, evaporated	06	09
Apricots	08	10
Peaches	06	08
Prunes	03	06
Pears		12
Raisins, per box		3 00
Raisins, loose	07	08½

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 85
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½

Hay and Grain.

The local hay situation is commanding no special interest, as the dealers are being well supplied and the prices are lowering in accordance.

Grain market remains steady, with no change in quotation.

Alfalfa	11 00	13 00
Tame oat		12 50
Barley hay	10 00	13 00
Wheat hay		13 00
Wheat	1 35	1 45
Barley	1 12½	1 15
Oats	1 25	1 35
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets

San Francisco, April 6.

Dairy.

There was an easier tone in the market f fresh lines of Butter this week and as t demand was inadequate to absorb the i creased supplies prices for all grades recede a point.

BUTTER—Per lb:	
Creamery, extras	21
Creamery, good to fancy	19 @2
Dairy, extra	18 @1
Dairy, choice	16 @1
Store	14 @1
California storage	Nomin
Eastern creamery	Nomin
CHEESE—Per lb:	
Cal. Creamery, mild, new, extra	11
Cal. Creamery, mild new, choice	8 @10

Young America .....10 @11½
Eastern, New York Cream, Cheddars and flats, new .....15 @16

Eggs and Poultry.

Receipts of local poultry were comparatively light yesterday and under a fairly active call the market displayed a firm tone at the prevailing prices.

EGGS—Per doz:
Ranch, selected large 20
Ranch, good to choice .....18½@19
Store .....17 @18
California storage .....Nominal
Eastern .....Nominal

POULTRY—Old Roosters, per doz., $5@6; young Roosters, $7@8.50; Fryers, $6@7; Broilers, large, $4.50@5.50; small, $2@3.50; Hens, doz., old, $5.50@6.50; young, $6.50@8; Live Turkeys, per lb., 16@18c; Dressed Turkeys, per lb., ——; Geese, per pair, $2.25@2.50; Goslings, $2.25@2.50; Pigeons, per doz., old, $1.25 @1.50; Squabs, $2.50@2.75.

Fruits and Vegetables.

Conditions in the market for Potatoes yesterday were a reflection of the features noted on the preceding day, trading continuing vigorous and strong prices prevailing for the better quality descriptions.

VEGETABLES—Asparagus, extra, per lb., 8c; No. 1, 6@7c; No. 2, 4@5c; Tomatoes, per box or crate, southern, 75c@$1.50; do, Mexican, $1.50@2; Rhubarb, per box, 50c@$1; Green Peppers, per lb., 15@25c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 12½@15c; Wax, —; Green Peas, per lb., bay, 3@4c; do, Los Angeles, 3@4c; box, $1.25@1.75; Cucumbers, hothouse, per box, $1.25@1.75; Cucumbers, hothouse, per doz., 75c@$1.75; Mushrooms, per lb, —; Garlic, per lb., 15c; Dry Okra, per lb., 12½c; Marrowfat and Hubbard Squash, jobbing at 1@2c per lb.

POTATOES—Per ctl: River Burbanks, $1.20 @1.30; Early Rose, $1.35@1.50; River Reds, $1 @1.10; Garnet Chile, $1@1.10; Oregon Burbanks, $1.40@1.65; Sweet Potatoes, nominal; New Potatoes, per lb., 2½@3½c.

ONIONS—Per ctl: Oregon, $2.75@3; Nevada, nominal; Australian, $3.50@3.75; Green Onions, per box, 40@60c.

DECIDUOUS FRUITS—Apples, per box, common to choice, 50c@$1.50; fancy, $1.75@ 2.25.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.50@2.25; choice, $1@1.65; standard, 90c@$1.25, according to size; Seedless, nominal; Lemons, 75c@$2.50; Grape Fruit, $1 @2; Tangerines, $1.25@1.75; Limes, $4@4.50.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are, per lb, as follows:

Apples—Evaporated, 5@6c; Sun Dried, 3@ 4½c.

Apricots—Royal, fancy, 10@10½c; choice, 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 5¾@6½c; fancy, 7@7½c; peeled, in boxes, 11@14c.

Pears—Bartlett, fancy, 11½c; choice, 9½@ 10c.

Hops.

The price for new crop is 24@27½c per lb., according to quality.

Beans.

The market for Beans is dull, with a marked absence of inquiry noted in all lines.

BEANS—Prices per ctl.: Large Whites, $2.60 @2.75; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.30@3.40; Red, $4.50@5; Pink, $3.20@ 3.40; Bayo, $2.40@2.55; Blackeyes, $2.05@ 2.25; Kidneys, $4.75@5.

Live Stock.

CATTLE—No. 4 Native Steers, 9½@10c; second quality, 8½@9c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 7@7½c; second quality, 6½@7c; thin Cows and Heifers, 5@6c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 6@6½c; weighing under 130 lbs and over, 5¾@6c; weighing 250 to 300 lbs, 5½c@6c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $14@17; Wheat and Oat, $14@15; Oat, $12; Barley, nominal, Clover, nominal; Alfalfa, $12@13.

STRAW—Good to choice, per bale, 60@70c.

OIL CAKE MEAL—In lots of 20 tons, $29.50.

CRACKED CORN—Choice quality, per ton, $28@29.

FEED CORN MEAL—Choice grades, per ton, $29@30.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $23.50@24.50.

MIDDLINGS—Per ton, $24@26.

BRAN—Per ton, $19@20.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@ 5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 shipping, per ctl., $1.37; choice, $1.50; White Milling, good to choice, $1.42.

BARLEY—Choice No. 1 Feed, $1.06¼@1.12; off grades, $1.10@1.11¼; Brewing No. 1, $1.17½@1.21¼; Chevalier nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small, do, nominal; White, $1.37½@1.45; Eastern, $1.32½ @1.40.

CRACKED CORN—Choice quality, per ton, $29@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@ $1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

CHICAGO, April 6.—Weakness in foreign grain markets and favorable weather throughout the United States caused liberal profit-taking in wheat early in the day. The majority of reports from the Southwest noted an improvement in crop prospects and advices from the Northwest reported prospects good for seeding. Initial quotations for July were down ⅝ to 1, at 85¾ to 85¾. During the first hour no support was forthcoming and prices declined still further, July selling off to 85¼.

July were down to ⅝ to 1, at 85⅝ to 85¾. During the first hour no support was forthcoming ond the prices declined still further, July selling off to 85¼.

Cash quotations were as follows: Flour was easy: No. 2 spring wheat, 97; No. 3, 87@89; No. 2 red, 93½@1.00⅞; No. 2 corn, 54¼@54¾; No. 2 yellow, 54¼@54⅝; No. 2 oats, 39¼@39½; No. 3 white, 40@42; No. 2 rye, 70; good feeding barley, 38@40; fair to choice malting, 45@ 55; No. 1 flax seed, 19; No. 1 Northwestern, 1.16; prime timothy seed, 2.00; mess pork, per bbl., 12.87½@13.00; lard, per 100 lbs., 6.77½@6.80; short ribs, sides (loose), 6.62½@ 6.75; short clear sides (boxed), 7.25@7.75; clover, contract grade, 10.75.

Grain Movements.

Articles—	Receipts.	Shipments.
Flour, barrels	86,500	68,200
Wheat, bushels	49,000	73,300
Corn, "	49,600	110,000
Oats, "	535,100	452,100
Rye, "	31,000	17,400
Barley "	122,400	57,100

DAIRY MARKET.

On the Produce Exchange today the butter market was steady, creamery, 14@24½; dairy, 12½@20; eggs, easy, 16@16¼; cheese, weak, 9@ 10½.

Chicago Live Stock.

CHICAGO, April 6.—Cattle—Receipts, 18,000; strong; good to prime steers, 5.25@5.75; poor to medium, 3.60@5.00; stockers and feeders, 2.50@4.30; cows, 1.50@4.25; heifers, 2.00@ 4.50; canners, 1.75@2.60; bulls, 2.00@4.00; calves, 3.00@6.00; Texas fed steers, 4.00@4.65. Hogs—Receipts today: 32,000; tomorrow, 20,000; 5@10c lower; mixed and butchers, 5.15@ 5.30; good to choice heavy, 5.25@5.40; rough heavy, 5.10@5.25; light, 5.00@5.20; bulk of sales, 5.10@5.25. Sheep—Receipts, 18,000; sheep and lambs strong; good to choice wethers, 4.75@5.50; fair to choice mixed, 3.50 @4.50; western sheep, 4.35@5.50; native lambs, 4.50@6.00; western lambs, 4.75@6.00.

Dried Fruits, Nuts, Etc.

NEW YORK, April 6.—The market for evaporaed apples is steady, with holders showing confidence, though demand is generally light. Common, 5@5¼; prime, 5½@5¾; choice, 6¼@ 6½; fancy, 7@7½. Prunes continue quiet, rather easier and prices range from 3¼ to 6¼, according to grade. Apricots are still practically nominal in the absence of offerings. Choice, 9½@10; extra choice, 10½; fancy, 11@ 13. Peaches quiet; choice, 7¼@7½; extra choice, 7¾@8; fancy, 9½@10.

NEW YORK, April 7.—During the early

CITRUS MARKETS

AUCTIONS.

New York, April 7.—During the early days of the week the market had the appearance of an advance in prices. Good fruit brought steady prices and sold at a fair demand. But the last two days have brought a reaction in the market on certain lines of offerings which have effected the whole market to a degree. As stated the market was firm on strictly fancy sound fruit, but a large percentage of the offerings were puffed and badly discolored and to these, with crease and decay, were due the low average.

An immense quantity of poor fruit that can scarcely be given away from the store is arriving. Fruit that starts from California in good condition, grading fancy perhaps, arrives here so badly discolored that it scarcely grades choice. The discoloration is on the outside, and appears in iced as well as ventilated cars, and no one has yet been able to explain the cause of it.

NEW YORK, April 4, 1904.

Victoria, Riv. Ex., C. B. Sta., $2.35.
Blue Globe, Riv., Riverside, $1.65; La Mesa, $2.45; Blue Globe, $1.85; Red Globe, $1.70.
Golden Orange, A. H. Ex., Arlington, $1.90.
Squirrel, $2.10, $2.20.
Tiger, S .B. Ex., Colton, $2.40; Floral, 2.20.
Fullers' S. B. Ex., Redlands, $2.10; Fairy, $1.80.
Parrot, S. A. Ex., Pomona, $1.80; Jewel, $1.65.
Pointer, A. C. G. Ex., Glendora, $2.05.
Pointer, A. C. G., Azusa, $1.65; Hunter, $1.50.
Pointer, A. C. G. Ex., Lateen, $1.75.
Pointer, Cox. Ex., Covina, $1.20.
Butterfly, Cov. Ex., Covina, $1.40.
Independent, Corson, Highland, $2.35, $2.15: Alta Mesa, $2.35.
Young America, Pinkham, McK., $2.30; Quail, $1.75.
Clover, C. C. U., Redlands, $1.95; Atlas, $1.85; Rose, $2; Camellia, $2, $2.25; Tiger Head, $1.80; Sunflower, $2.25; Blossom, $1.80.
National, C. C. U., Riverside, $2.10; Carnation, $1.55.
National, C. C. U., Highgrove, $2.20; Our Favorite, $1.95.
Peacock, C. C. U., Corona, $1.65.
Liberty Belle, C. C. U., Monrovia, $1.65; Lighthouse, $1.40.
Yosemite, C. C. U., E. Highland, $1.90.
Extra Choice, S. S. Ex., Anaheim, $1.65; VV, Cov. Ex., Azusa, $1.60.
Cal. Beauty, Worthley, Strong, $1.70.
Old Mission, Chapmans' Fullerton, $3.40, $2.20.
Whittier, Whittier, Redlands, $2.35, 2.10; Squaw, 2.30.

GRAPE FRUIT.

Tiger, S. S. Ex., Colton, $1.80.
Orange Prince, Collins Ft. Co., $2.25.
Stag, A. C. G. Ex., Azusa, $2.30.
Old Mission, Chapman's, $2.90.

BLOODS.

Cal. Beauty, Worthley, Strong, $1.95; Squaw (halves), $1.10.
Poppy (Ruby Bloods), C. C. U., Redlands, $2.20.

TANGERINES.

Victoria (halves), Riv., C. B. Sta., $4.35.
Fancy (halves) C. C. U., Redlands, $2.50.
La Mesa, Riv., Riverside, $4.00.
Tiger (halves), S. B. Ex., Colton, $2.45; Wright Bros. (halves), $1.30.
Blue Globe (quarters), Riv. Ex., $2.

LEMONS.

Nectar, Everest Rancho, $1.40; Ambrosia, $1.20.

PHILADELPHIA, April 4, 1904.

Perfection, C. C. U., Allesandro, $2.10; Golden Rod, $2.
Monogram, C. C. U., Redlands, $2.05; Clover, $2; Blossom, $1.75; Tiger Head, $1.80; Blossom, $2.05.
Star, C. C. ., Fillmore, $1.85.
Owl, O. K. Ex., Etiwanda, $1.90.
Fancy, S. T. Ex., Tropico, $1.70.
Alta Mesa, Corson, Highland, $2.05.
Young America, P. & McK., $1.95.
Alhambra, Alhambra O. G. A., $1.85.
Victoria, Riv. Ex., C. B. Sta., $2.15; Lincoln, $1.80; Navajo, $1.50.
Red Globe, Riv., Riverside, $1.80; Blue Mtn. $2; Red Mtn., $1.80; Standard, $1.55.
Violet, Cov. Ex., Covina, $1.85.
Violet, D. M. Ex., Duarte, $1.60.
Winner, S. B. Ex., Drew Sta., $2.
Orchard Queen, Collins Ft. Co., $2.
Covina O. R., Houser Bros., Covina, $1.85.

TANGERINES.

Fancy (halves), C. C. U., Redlands, 95c.

BLOODS.

Perfection (halves), C. C. U., Allesandro, $1.25; Golden Rod, $1.10.
Lily, C. C. U., Lindsay, $1.90; Mistletoe, $1.65.

BOSTON, April 4, 1904.

Swan, S. B. Ex., Redlands, $1.85, 1.90.
Squirrel, A. H. Ex., Prenda, $1.70, $1.95.
Stork, S. A. Ex., Claremont, $1.85.
Arrowhead, S. B. Ex., Highland, $2.
Extra Choice, S. S. Ex., Anaheim, $1.65; $1.30.
Cloister, Rubidoux Ft. Co., $2.35.
Banner, O. R., P. & McK., $2.
Independent, Corson, Highland, $2.15, $1.90.
Cal. Beauties, Worthley & Strong, $1.95.
Alhambra, Alhambra O. G. A., $1.85.
Marigold, Riverside Ft. Co., $1.75.
Cream, C. C. U., Rialto, $2.35.
Minnehaha, C. C. U., Rialto, $1.90.
Rose, C. C. U., Redlands, $1.95; Clover, $2.00.
Red Letter, C. C. U., Tropico, $1.75.
Angel, C. C. U., Colton, $1.85; Marguerite, $1.80.
Killy, Riv., Riverside, $2.15, $1.90; Park, $2.90, $1.95; Marshall, $1.95; Fruitland Park, $1.80.
Marigold (Bloods), Riverside, $2.05.
Crow (Grape Fruit) $1.45.

NEW YORK, April 5, 1904.

Red Globe, Riv., Riverside, $1.95; Blue Globe, $2.30, $1.85, $1.85.
Fiesta, Riv., Pachappa, $1.70.
La Mesa, Riv., Riverside, $2.35.
Pointer, A. C. G., Azusa, $1.70; Pointer, $1.55; Red Shield, $1.85.
Parrot, S. A. Ex., Pomona, $1.75.
Pointer, A. C. G. Ex., Azusa, $1.70, $1.55; Red Shield, $1.85.
Parrot, S. A. Ex., Pomona, $1.75.
Red "C" T. I., Cov. Ex., Covina, $2; Red "C", $1.80, $1.90.
Quail, A. H. Ex., Prenda, $1.85.
Our Pride, Riv. Ex., Highgrove, $1.05; Eagle, 70c.
Laurel, C. C. U., Corona, $2.10; Princess, $1.75.
Truth, San Jacinto Land, $1.80.
La Paloma, Arlington, $1.90.
Alta Mesa, Corson, Highland, $2.15, $2.05.
Camellia, C. C. U., Redlands, $2; $1.95; Blossom, $1.70, $1.75: Tiger Head, $1.60; Redland Beauties, $2, $2.10; Atlas, $1.75, $1.65; Clover, $1.95.
National, C. C. U., Riverside, $2.25; Capitol, $1.80.
Capitol, C. C. U., Highgrove, $1.85.
Yosemite, C. C. U., E. Highland, $2.05; Cactus, $1.80.
Gondolier, C. C. U., Rialto, $1.65.
Sky High, C. C. U., San Marino, $1.45.
Red Letter, C. C. U., Tropico, $1.
Sapphire, C. C. U., Covina, $1.70.
Elephant, Rub. Ft. Co., $1.90.
Old Mission, Chapman's, $2.05.
Golden Eagle, Chapman's, Fullerton, $1.85.
Fountain, Moffat Ft. Co., $2.15.
Santa Fe, Moffat Ft. Co., Rialto, $1.95.
Cloister, Rub. Ft. Co., $2.20, $2.25, $2.25.

GRAPE FRUIT.

Padre, Rub. Ft. Co., $1.60, $1.50.
Stag, A. C. G. Ex., Azusa, $2.30.
Sapphire, C. C. U., Covina, $1.85.
Old Mission, Chapman's, $2.85.
Carnation, C. C. U., Riverside, $1.20.
Red Letter, C. C. U., Tropico, $1.50.

BLOODS.

Blue Globe, Riv., Riverside, $2.20; Laurel, C. C. U., Corona, $2.20.
Atlas, C. C. U., Redlands, $2.
Our Pride, Riv., Highgrove, $1.45.
Princess, C. C. U., Corona, $2.15.

BUDDED.

Fountain, Moffat Ft. Co., $1.85; Santa Fe, $1.75.

LEMONS.

McNair, 300s sold for $1.75; 360s $1.65.

TANGERINES.

Red Globe (quarters), Riv. Ex., Riverside, $2.30.

BOSTON, April 5, 1904.

Rose, C. C. U., Redlands, $2.30; Blossom, $1.75.
Cream, C. C. U., Rialto, $1.90; Minnehaha, $1.85; Gondolier, $1.65.
Blue Globe, Riv., Riverside, $1.90; Red Globe, $1.75.
Victoria, Riv., C. B. Sta., $1.95.
Swan, S. B. Ex., Redlands, $2.25; Gold Buckle, $2.20.
Iris, D. M. Ex., Duarte, $2; Violet, $1.90.
Bear, O. K. Ex., Upland, $2.35; Coyote, $2.05.
Cupid, V. C. Ex., Fillmore, $1.70; Cycle, $1.65.
Bear (Tangs.), O. K. Ex., Upland, $2.95.
Royal K. (R. Bloods), S. B., Redlands, $1.40.

GRAPE FRUIT.

Quail, O. K. Ex., Upland, $1.35.
Violet, D. M. Ex., Duarte, $1.50.

NEW YORK, April 6, 1904.

La Mesa, Riv., Riverside, $2.30; Special, $3.25; Blue Globe, $2.25; Red Globe, $1.85, $1.40.
Uncle Sam, Riv., Pachappa, $2; Fiesta, $1.50; Uncle Sam, $1.60.
Red Shield, A. C. G. Ex., Azusa, $1.85; Blue Shield, $2.15; Red Shield, $1.75.
Pointer, A. C. G. Ex., Charter Oak, $1.45; Hunter, $1.25.
Squirrel, A. H. Ex., Prenda, $2.05; Golden Orange, $2.
Coyote, O. K. Ex., Upland, $1.75.
Stork, S. A., Ex., Claremont, $1.75.
White "C", Cov., Covina, $1.55; $1.65.
Clover, C. C. U., Redlands, $1.85; Eagle Head, $1.65; Tiger Head, $1.75; Atlas, $1.70; Tiger Head, $1.55; Herald, $1.60; Monogram, $1.80; Blossom, $1.75.
Capito, C. C. U., Highgrove, $1.75; Excelsior, $1.55.
Geranium, C. C. U., W. Highland, $1.60.
Geranium, C. C. U., E. Highland, $1.55.
Sapphire, C. C. U., Covina, $1.45.
Puritan, S. B. Ex., Rialto, $1.65.
Violet, D. M. Ex., Duarte, $1.80.
Violet, D. M. Ex., Monrovia, $1.25.
Selects, S. A. Ex., Monrovia, $1.25.
Selects, S. A. Ex., Lordsburg, $1.55.
Butterfly, Cov. Ex., Covina, $1.50.
Cactus, C. C. U., E. Highland, $1.65.

GRAPE FRUIT.

Blue Seal, Riv., Riverside, $1.55.
Golden Orange, A. H. Ex., Prenda, $3.30.
Trophy, C. C. U., E. Highland, $1.75.
Puritan, S. B. Ex., Rialto, $1.75.

BLOODS.

Red Globe, Riv., Riverside, $2.05.
Blue Globe, Riv., Riverside, $1.80.

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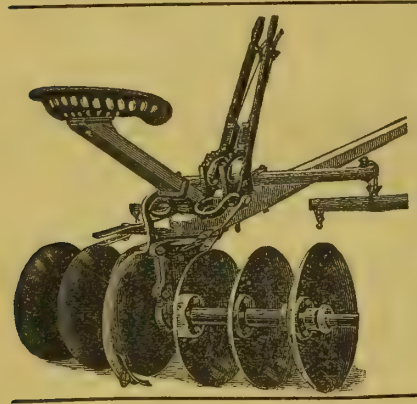

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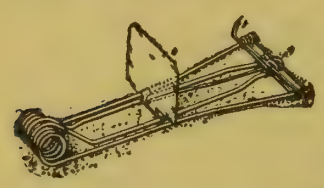

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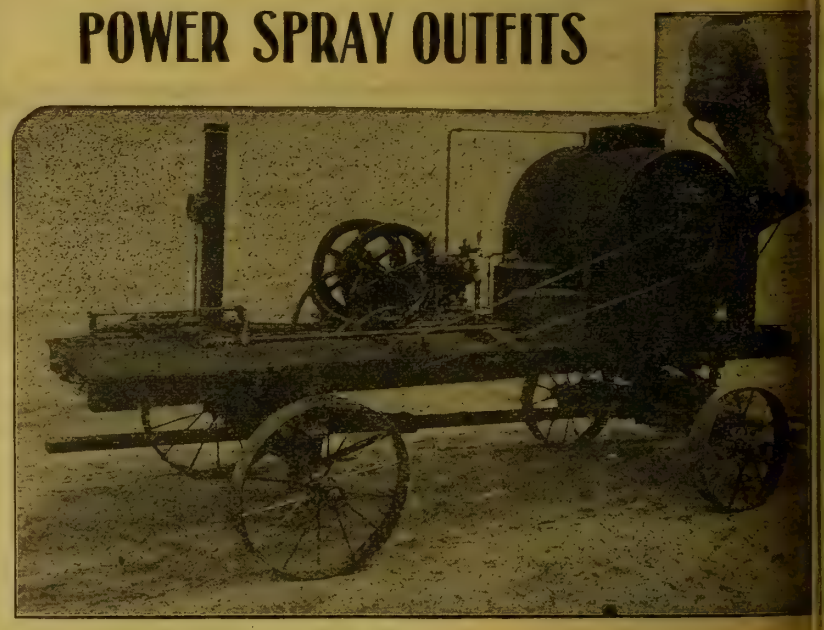

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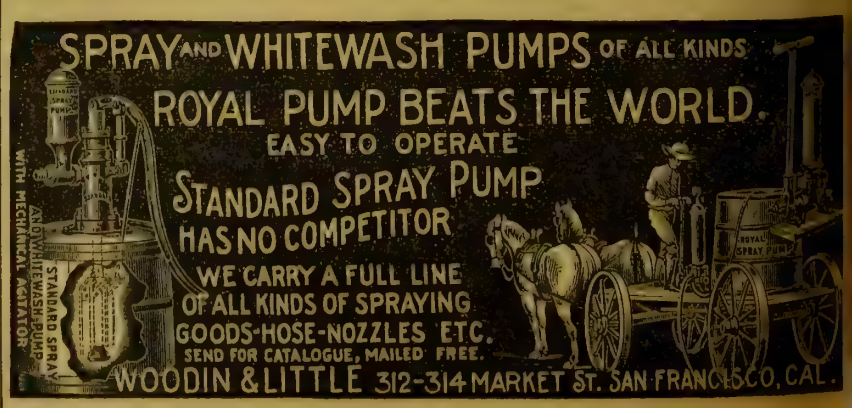
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California Cultivator

LOS ANGELES SAN FRANCISCO

APRIL 15, 1904

Gathering the Orange Crop.

IN THIS ISSUE: Necessity for Good Roads; An Important Water-Right Decision; Insect Control; Small Margins for the Beef Combine; Doctors Differ; Preserving Eggs.

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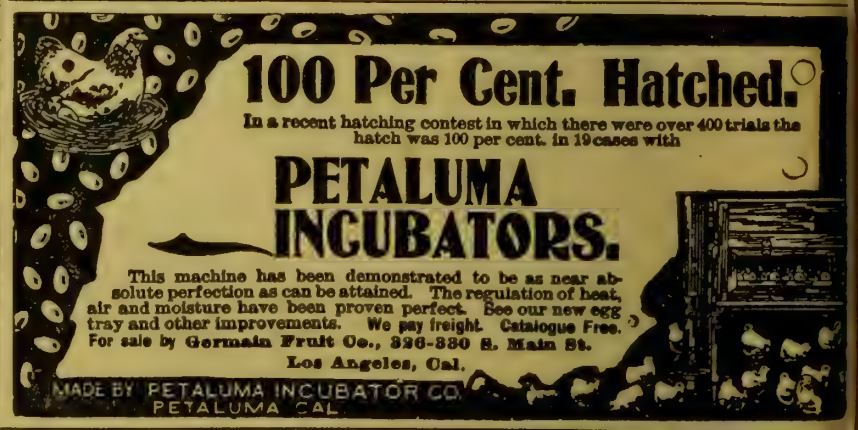
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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 16 LOS ANGELES, CAL., FRIDAY, APRIL 15, 1904 Subscription $1 a Year

The Necessity for Good Roads . . .

There is no subject of more general interest to property owners in California than the making and maintaining of good roads. Much has been said and written by well informed persons on the subject of making good roads, and much has already been accomplished along this line. But so great is the necessity, and so pressing the importance for good roads generally, in this State, that too much cannot be urged, of our county and State authorities, to give more attention to this branch of our public service.

In parts of California, we have hills to level, cuts to fill and ravines to bridge, but as a general thing our valleys are level and there are no great engineering feats necessary to overcome expensive obstacles. With comparatively little expense we can make as fine a system of roadways as any State in the Union. Our soil is especially adapted to building hard surfaced tracks if taken at the time of year when all work of this class should naturally be done.

The immense travel leading to all our cities and towns of importance is proof of the necessity for the best roads that can be constructed. Hundreds of thousands of tons of hay, grain, fruit and produce are annually hauled to our cities, and it is to these industries, of course, that the phenomenal growth of these cities and towns is in great part due, for without this produce our towns would not be what they are.

* * *

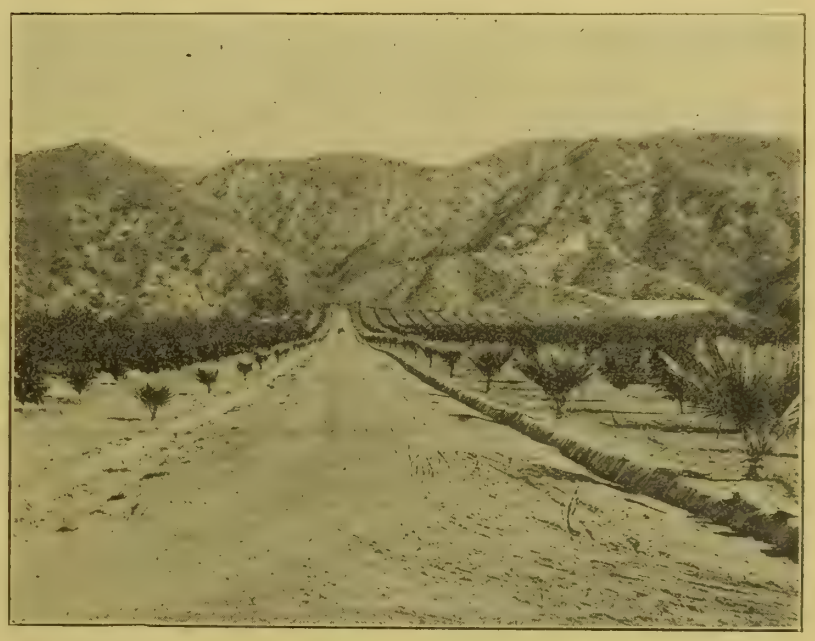
Large sums are yearly appropriated to build and repair our roads, but the misfortune is, and has been, that the work is entrusted too frequently to men who do not understand conditions nor how to economize labor, nor how to surface the track after the dirt has been thrown up. Proper surfacing is as necessary as filling the chuck holes, for we often find the roughest roads where plowing has left a poor surface. The Cultivator has frequently said that good roads enhance the value of land in the country as well as lots in the cities, for without them we should not be able to have the markets we enjoy at this time.

* * *

The proposition to rehabilitate the El Camino Real is the result of agitation of the good roads idea in California. It simply shows the tendency of the public mind on this subject in the State. If the fact could be thoroughly established in the public mind that good roads are the best advertisement a country can have we would see such an awakening in public sentiment as would make a State issue of road building.

* * *

Who can estimate the value to California of the road leading to Yosemite Valley. Those who have traveled it say it is the best mountain road they ever saw. The Yosemite Valley is not a commercial place. The road was built at a great expense, and it is used mostly by tourists who visit the valley for pleasure and to see its wonderful beauties. If it was necessary to have a good road leading there for pleasure how much more important it is to have good roads over which we must haul our produce to the market. The days of ox teams and prairie schooners is past. We live in an age of bicycles and automobiles which require good, smooth roads. Railways and electric roads are usually built by private means, and no pains or expense is spared to make them efficient. Public roads are built by taxation, and as all must contribute to this fund all have an interest that the wisest economy shall be exercised in expending it.



A well built road with storm gutters.

The trouble has heretofore been that incompetent men were put in charge of this enterprise, and money has been injudiciously spent, where it might have been used to the best possible advantage. But lack of proper knowledge left the roads in worse condition, if possible, than before the attempt was made to repair them.

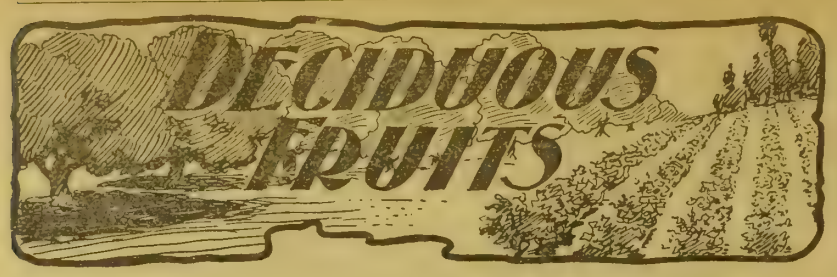
The public is to blame because it has heretofore paid too little attention to the matter of selecting the right men as supervisors. Once let it be known how important it is to select only supervisors with knowledge of road building and repairing and as much consideration will be given these officers as is now given the most important officer in the county.

* * *

Road making is everywhere engaging public attention, not only in the United States but in foreign countries as well. Representatives are sent to other countries to study and report the best and most economic methods of road making. People everywhere who use the roads are complaining of their present condition. All of which is proof that they do need improvement. Owners of land could greatly assist the road makers by keeping their borders free from weeds and cockle-burrs. Many of them carefully cultivate their vineyards and orchards, but never touch the land near the fence or roadside. Some of our enterprising vineyardists

(Continued on Page 382)

Trail of early days through sage bush



BY J. W. MILLS, ONTARIO, CAL.

DRIED PRUNES.

Editor Cultivator: A subscriber wants to know how to dip dried prunes so as to give them the nice gloss and what sized boxes would be best for packing.—Subscriber, San Bernardino.

Glucose will give them a bright gloss, but it is objectionable when used in large quantities. It is said to be very prolific of kidney troubles and there has been objections made to its use in curing prunes. The best packers use a pure prune dip. It is made by boiling a quantity of low grade prunes till they are of the consistency of syrup and diluting them with water. The prunes are dipped in this while the liquid is boiling and packed in the boxes while steaming hot. One pound of glycerine to 20 gallons of water is a good dip. If it is desired to fix up some prunes for exhibition, nothing will give them a brighter gloss than an alcohol bath, the stronger the better.

Prunes are packed in boxes containing 12½, 25 and 50 pounds per box.

* * *

PEACH TREE TROUBLES.

Editor Cultivator: I have a young peach orchard, 1, 2, and 3 years old, planted on sandy soil. Every year the leaves turn yellow and fall off, caused by red spider, I presume. If I take sulphur and apply it as soon as the leaves appear, would it do any harm, not waiting till the leaves are damaged? Will any harm be done to the tender foliage?—W. Champress, Selma.

Your trouble may be red spider, but we doubt it. At any rate, lime, salt and sulphur with one half pound of bluestone added to every ten gallons of the mixture, will fix the red spider so that it will not do much harm or prevent the curl leaf which your trouble might be. If the leaves simply turn yellow and do not become misshaped, it may be red spider, but if they curl up and become thick and deformed, the trees are surely affected with curl leaf. The mixture given above will kill this if applied before the leaves come out. It may be applied as late as when the blossoms begin to appear without injuring the trees or blossom buds, in fact, that is the best time to spray with it. If it is the red spider, the wash will kill the greater part of them as fast as they hatch. It will not injure the eggs, but the tender little mite cannot stand the fumes that are given off from the sulphur. A few may escape and get on the young growth, but a shower of sulphur in the trees when you can first see any of them will fix the rest of them. The lime, sulphur and salt wash will not only rid you of these two troubles, but it will also kill any fungus disease that may attack them later on in the summer. If you have any trouble with the little brown worm that you sometimes find in the fruit, usually at the stem end or where two peaches touch, it will also kill almost everyone of them. The wash is made by boiling in about 15 or 20 gallons of water, 20 lbs. of well slacked lime and 20 lbs. of the best sulphur. Boil for one hour and a half, add 20 pounds more of well slacked lime and 15 pounds of ground stock salt and boil for half an hour longer. Add enough water to make 60 gallons in all. If you add the bluestone, have it dissolved and put it in with the last water. A convenient thing to remember about dissolving the bluestone, is to hang it just below the surface of the water in a sack where it will dissolve in a very short time, in a small quantity of water, while if it is thrown in the bottom of a vessel containing water, it may lie there for days without dissolving. The bluestone does not alter the efficiency of the rest of the wash and practically makes a Bordeaux mixture of it.

* * *

WEED SEEDS IN STABLE MANURE

Editor Cultivator: Will you please tell me the best method of destroying weed seeds in stable manure? Would it be advisable to mix in a small quantity of quick lime? About how much to be effective?—Subscriber.

The most satisfactory way of killing those weed seeds would be to pile the manure up and allow it to rot. Do not allow it to heat, but turn the water on it often enough to keep it wet. If it is to be used in a garden or on the lawn, it is the only practical way. We have seen large vats lined with cement or asphaltum into which the manure is piled and covered with water. The liquid is drawn off and applied in the irrigation water and the solids carted off and scattered or piled up to rot before scattering. It is not profitable to use lime to kill the seeds unless your soil needs the lime.

* * *

VELVET BEAN.

Editor Cultivator: Can you inform me through the Cultivator as to the properties of the Florida Velvet bean as a stock food, and where can the seed be obtained?—F. Pomeroy, Burbank.

The Florida Experiment Station bulletins claim that the Velvet bean is more valuable for feed than for green-manuring. It is stated that when starting an animal in on the bean meal they must not be allowed to eat too freely of it as it sometimes causes stock to die. This refers to the meal made from the beans.

The Texas Station bulletins say that the Velvet bean will make large yields of forage per acre in nearly all parts of Texas. That would indicate that it will also do it in California. It requires eight months in which to grow if seed is desired. It is considered a fine crop as a soil restorer, but the Texas farmers are not willing to use it instead of the cow pea for stock feed. Pound for pound the cow pea is more than equal to the Velvet bean for stock feed, but acre for acre they are practically equal. Stock are not partial to the velvet bean at the start, but it may become accustomed to it.

The beans should be planted about four feet apart each way and cultivated as long as the vines will permit. The vines lie close to the ground and cover it entirely, making it hard to harvest the crop. The only practical way of using the crop is to pasture stock on it. Seed of the velvet bean may be bought from any of the Los Angeles seed houses.

* * *

MONTEREY CYPRUS.

Editor Cultivator: Please inform me through your paper the best way to start Monterey cypress seeds. Is it necessary to soak them, or will they start in good moist dirt?—O. H. Price, Etiwanda, Cal.

Monterey cypress will start in moist sandy loam. It is best to make the soil rich with leaf mould. The seed is usually sown in boxes in the fall.

* * *

COW PEAS.

There is considerable interest being taken in this crop of late years, in Southern California. Their use has almost entirely been confined to planting in orchards as green manuring crops. The hay raisers usually plant Egyptian corn, producing grain with good fattening qualities. On light, sandy soil that retains the moisture well, cow peas grow well without irrigation. They make a very rich food, equal almost to alfalfa. Actual pasturing tests made at Lincoln, Nebraska, average of two years' tests, showed that cows pastured on cow peas, produced as much milk in twenty days as when pastured for 25 days on sorghum.

The fertilizing value of cow peas is considerable, they being a legume. In one experiment, a plot sown to cowpeas produced $18 worth of hay and the year following a crop of oats valued at $18.50, while an equal plot that did not follow cowpeas, only produced $11.50 worth of hay. In another trial cow peas produced $19.33 worth of hay and the stubble was plowed under Wheat was sown on the land and an equal area on which no peas grew was sown to wheat. The value of the two crops on the cow pea plot was $32.53, while the crop of wheat brought but $8. An average taken from seven different plots showed that when cow peas were grown during the summer and planted to wheat in the fall, the average value of the wheat was $26.85 per acre, while the crop of wheat on the check plots, those on which nothing was allowed to grow during the summer, was only worth $11.84.

A dry atmosphere seems to favor the cow pea, as results at the Arkansas stations show. During four years, the highest yields were obtained during the years of lightest rainfall. The highest yield was recorded during the dryest year. The cause seems to be due to the presence of mildew during the wet seasons, badly affecting both the hay and seed.

Drilling the seed gives better results than sowing broadcast. More favorable yields were obtained from thin than from heavy seeding. In 1900, Whippoorwill peas sown at the rate of one and eight pecks per acre gave 3,314 lbs. of hay, and 31 bushels of peas per acre, and 1,748 lbs. of hay and 16 bushels of seed per acre respectively. In 1901 peas sown at the rate of 12.5 lbs. per acre yielded 400 lbs. more hay and 16.5 bushels of peas more per acre than peas sown at the rate of 100 lbs. per acre.

FARMERS' INSTITUTES.

The importance and extent of the farmers' institute movement in this country received recognition by the government last year and were brought more prominently to general notice than ever before by the establishment of a new office in the office of experiment stations that was devoted to the duty of assisting the farmers' institute workers of the United States. To the charge of the third office Hon. John Hamilton was appointed under the title of "farmers' institute specialist." There are probably many people, however, even among the farmers who still know little or nothing of farmers' institute work and the object it seeks to accomplish. As to what the farmers' institute ought to be and what it ought to strive to do Specialist Hamilton has said:

"There was a time when the institute meeting was selected as an appropriate place for some agricultural pessimist to preach a funeral sermon. That day is past. The new gospel of agriculture is one of good news—of deliverance from ignorance, superstition and mediaeval ways—and the true minister in this service is a hopeful, helpful and enthusiastic man. The object is, in short, to educate not only the farmers, but the race, in the fundamental principles that underlie the all important art of producing animals and crops. It is the agency for disseminating information in agriculture that the platform is in molding public sentiment in political campaigns. It is the complement of the educational forces now organized for uplifting agriculture in the United States."

Michigan reports a total attendance at institutes for the year 1902-03 of 100,000, of whom 60,000 attended two days' meetings. The amount of money expended was the State fund of $7,500. Ten thousand copies of an institute report of 150 pages were published. The number of State speakers on the institute force was 100. For several years the largest attendance at one day institutes has been secured in small villages in the center of a thickly settled farming community, and the great difficulty has been found in securing a hall or a church sufficiently large to accommodate the crowd. While this is most common with the one day institutes, which are held for the most part in villages, a similar difficulty has been found during the year at a number of the two day institutes. In only one State, Kansas, do government statistics for 1902-03 give a larger average attendance than in Michigan, the figures being: Kansas, 499; Michigan, 407.

This is an age of organizations, and in Canada a feature is being made of women's institutes, because, though the men and women of farms have many interests in common, there are times when the subjects discussed are not equally interesting.

The department of agriculture gives each women's institute $10 a year, and each also receives $10 from either the farmers' institute or the county council, in some cases from both, thus giving it something to start with.

Another source of revenue is the yearly excursion to the agricultural college. Each farmers' institute has an excursion during the month of June. The women's institute receives some proportion of the funds provided. Each member pays a membership fee of 25 cents a year. This is within the reach of every one and gives all some interest in the institute. They belong to it.

One of the secrets of success in institute work has been in the practical character of the work done. In the great majority of cases the teachers at farmers' institutes thus far have been pracical men and women, who have put their heart and soul into it simply for the good of the cause. President Salta, of the American Association of Farmers' Institute Workers, characterizes the work as "young, growing and influential."—B. Benjamin, Jr.

Quails (partridges) are multiplying so fast in some California localities that last year they damaged crops.

LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

ANOTHER ARIZONA WATER RIGHT DECISION.

Another court decision favorable to the farmers of this region has been rendered and another point gained in the hard fight with the canal companies. This struggle between the water users and the canal companies began in 1887 when a suit was instituted against the Arizona Canal Company for the purpose of enjoining it from diverting from the Salt river the water claimed by the farmers. After the usual delays, a decision favorable to the older appropriators was rendered in 1892, the judge holding that only owners and occupants of land (not canal companies) were entitled to appropriate water, that priority of appropriation gave the better right to the use of water, that the appropriation of water for irrigation consisted in diverting and applying it to land, and that a canal company is but a carrier and not an appropriator of water. The court did not establish the rights of the individual land owners, but decreed that the water of the river should be divided among the different canals of the valley in accordance with a prepared table. The work of determining individual rights was left for the future. Through evasion and through open defiance of the laws of the territory and of the court decree, a few of the canal companies of the valley have continued to deprive farmers of their rights. The struggle between the companies and the farmers has therefore been almost continuous for over fifteen years. Some years ago the canal company controlling the distribution of the water on the north side of the river (the side on which Phoenix lies) issued what they called water-rights, and thenceforward refused to contract for the delivery of water (the sale of water they called it) with any who were not stockholders in the canal or did not possess a "water right."

During the past ten years several decisions have been rendered by the District Court, some unfavorable to the farmers and some favorable, depending upon the judge upon the bench. For many years a decision from the Supreme Court has been awaited, and recently one of great importance was rendered. The substance of the decision is that the appropriators of water have a right to the use of it without either purchasing or renting a so-called water right from the canal companies. The court holds that a canal company is a quasi-public servant and, therefore, cannot arbitrarily discontinue the delivery of water in whole or in part to those who are entitled to it. A very important part of the decision was that a land-owner acquired the right to water from the river by the simple use of it for the irrigation of his lands and that having been once supplied the right cannot be taken away from him. The decisions of the District Court, unfavorable to the farmers, are reversed and those that were favorable are affirmed. A decree is rendered establishing the right of the land-owners to the use of water as appropriators, to the extent needed for the irrigation of their lands, and requiring the canal companies to deliver water to such land owners regardless of whether they possess a water right or not, provided they are entitled to water by priority of appropriation and offer just compensation for carrying it to their lands.

The language of the court on some of these points is as follows:

"Under our statutes an appropriator of water for irrigation is one who makes an application of public water upon land he owns or possesses. To perfect such an appropriation two things are essential: The ownership or possession of the land, and the application thereon of public water to a beneficial use. No statute, either territorial or congressional, makes the ownership of the means of diversion essential to perfect the right of appropriation. Such means may be owned by another. Since a canal company organized for the purpose of the diversion and carriage of water for irrigation and not being the owner of arable and irrigable land is not an appropriator of water, it follows that the diversion of public water would be unlawful were the consumers of such water not appropriators in the fullest sense. When the canal company is not itself the appropriator, its only warrant for its diversion of water is that it supplies appropriators. All, therefore, whom it does supply and who make use of the water thus supplied for the irrigation of their lands are the appropriators whom, by its act of diversion and carriage, it undertakes to serve. It follows, therefore, that all persons owning land under the flow of such a canal which have been irrigated by means of water furnished by such canal become appropriators and possessed of rights of appropriation in the order of their priority."

This decision is an exceedingly important one for the irrigation interests of the valley. The development of a large part of the region has been retarded by the continuous litigation of the past decade. Water rights and consequently land values have been unstable, and this decision will do much towards bringing about a stability of values. Furthermore, upon account of the building of the Tonto dam, it has been important that the water question be settled as soon as practicable. The government naturally insists that before delivery of water is begun from the dam, the rights to individual users from the river should be adjudicated. These general principles having been established by the courts, it now remains to adjudicate the priority right of each water user of the region. This is to be done, it is understood, by the beginning of an amicable suit within the next few months.

* * *

TREES ON ALKALI SOIL.

"A Subscriber," Lemoore, Cal., writes asking what Eucalypts and other trees may be grown upon low lands containing some alkali. He asks especially about cotton-woods, pecans and locust. None of these trees can be grown where there is much alkali in the soil, although a few species of Eucalpts endure some alkali. E. rostrata will probably endure as much alkali as any species of Eucalypts and E. botryoides would probably also endure some. The latter will grow even where there is some stagnant water. The amount of alkali the different species of Eucalypts will endure depends very much on the climate. Where the summers are extremely hot and the winters cold they will endure less alkali and other unfavorable conditions than in a more favorable climate. They may thrive in some alkali during favorable weather, but when trying conditions come they will show the effects of the alkali. The cottonwood endures some alkali, but not much, and furthermore is not very useful for fuel, timber or posts, the uses to which the inquirer wishes to put the trees when grown.

INSECTS.

In very many parts of the country the farming population has to contend with at least two diseases which are preventable. These are malaria and typhoid fever. Both of these diseases are transferred or may be transferred by insects—malaria by certain mosquitoes and typhoid fever by the common house fly.

While it is true that both malaria and typhoid prevail in large cities, it is none the less true that they may with a certain degree of accuracy be termed country diseases, that is to say, rather specifically, diseases of the farm and the small village. Malaria, in fact, has been called by medical men a country disease. Swampy regions do not occur in cities, whereas they occur commonly in the country. Open streams with side pools of still water are found only in the country, and it is in such small, still pools, and in more or less permanent but small accumulations of water, that the malarial mosquito breeds. This mosquito, therefore, does not accommodate itself well to the city conditions, but it is almost everywhere in the country, except possibly in very dry localities and at certain high elevations. Even in dry regions it sometimes abounds, especially where there is a definite rainy season, or where the land is irrigated. Irrigating ditches are prolific breeding places for mosquitoes, including the malarial kind. Malaria in cities, as a rule, is found only with persons who have contracted it in the country or in the suburbs, although with some cities having marshy places on their borders a malarial belt may exist, the extent of which depends upon the direction and force of the prevailing summer breezes, especially the night breezes. For example, such a condition as this accounts for the prevalence of malaria in certain portions of the city of Washington, before the reclamation of the Potomac flats, which lie to the south of the city, the prevailing night breezes of the summer being southern.

Cities well supplied with water from a reservoir, which possesses a modern sewer system, and in which water closets are universal, derive typhoid fever only from the following sources: Contaminated country milk, the return of people in the autumn from the less sanitary country, and lack of care in the disposal of the discharges of persons who have contracted typhoid from either of the first two sources.

In the country, however, conditions are different. Each house in the country or each house in a small village has its own water supply, usually in the shape of a well; the cattle get water from the streams; there are no water closets, and excreta are deposited in the open or in box privies; drainage from these box privies or from the open deposits containing virulent typhoid germs may enter the streams, be carried for some distance and be taken into the stomachs of cattle all along the course of the stream, or the germs may be carried by underground drainage directly into the wells from which drinking water is obtained; or, exposed as these box privies or open deposits are, certain flies may alight upon the excrement and carry the germs directly to the food supply of the houses; or certain flies may breed in this excrement and fly, fairly reeking with disease bearing filth, to the kitchens and tables of near-by houses. When we consider that active typhoid germs may be given out for some time by persons who have not developed typhoid fever sufficiently so that it may be recognized, and that they may also be given out for some time after patients have been apparently cured of the disease, it is manifestly essential that the insects which carry disease be eradicated by cleanliness and every known preventative.—U. S. Department of Agriculture.

KEEP BEES.

Every farmer should keep bees. He should begin, if he has had no experience, with one or two colonies, and increase until he has all he wants. Four or five colonies, if the bee range is fair, will amply supply an ordinary family with all the honey they can consume. If the location is a favorable one for honey plants, and is not already overstocked with bees he may continue to enlarge his apiary until it becomes a real money-maker. To do this he must study the bee and read the bee books and papers, for these will help him over many obstacles to be met on the way to success. It is very rare that a farmer ever begins with bees and finally gives them up. The work becomes more and more attractive as one learns the habits of these industrious little workers. —Farm and Ranch.

UTILITY OF SCRAP BOOKS.

There are many little items in farm management that are commonplace to the majority but which are novelties to others, because they have not seen them described in public print or have learned of them while away from home. Then too many little conveniences are described and because not exactly in one's line of work at the time, the item is cast aside and forgotten. For this reason every farmer would find it to his advantage to keep a scrap-book in which, under appropriate headings, suggestions clipped from the journals taken by the family may be pasted. Books of this kind are sold so cheaply and the benefit is so apparent that we are sure that any one will be amply repaid for the trouble.

Good country roads are not only in a sense distance annihilators, but they enable the farmers to double up the wagon loads with no real increased labor for the teams.

The farmer has many enemies to contend with. It is estimated that $50.-000,000 a year is lost by hog cholera, and that $30,000,000 worth of field crops are annually destroyed by insects. Fall plowing destroys many of the insect pests.

There will be $96,640 allotted for horses, asses and mules at the coming World's Fair. A single stallion may win $500 solely on his individual merits in any of the more important classes.

"ITS PENNY WISE"

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe ave., Los Angeles.

Conducted by PROF. A. J. COOK, Claremont, Cal

TUBERCULOSIS AND CONSUMPTION.

I do not believe that I could bring before our readers any more important subject than the one that heads this article. The frightful, momentous and startling fact that one-sixth of the total deaths are said to be caused by this "white scourge," and conservative estimates make the total deaths from this arch enemy of the human race, to be over 1,000,000 annually, surely gives abundant food for reflection. When we couple with these appalling statistics, the further fact, that in places where attention has been given to sanitation, the number of deaths has been reduced 50 per cent, we come to appreciate the value of anything that throws new light on this deadly foe of our race.

I have been led to these words by the careful reading of a most valuable book that has just been published; "Consumption, a Curable and Preventable Disease," by Dr. Lawrence F. Flick. As I understand, Mr. Henry Phipps, the late partner of Carnegie, has given a large sum of money to endow research along the line suggested by the title of this book. This book is a first contribution from this beneficent undertaking. I wish Congress would make an appropriation to put it into every home of the country. In lieu of this, I wish every State would take action in the matter. I do not believe it would be possible to make a wiser use of public money.

Most of us know that consumption is a bacterial disease, and so is caused by micro-organisms. Many now know that it is not hereditary, but is contagious. But how many know that "tuberculosis" and "consumption" are two different diseases, that they can only be spread by contagion, and that it is perfectly possible to prevent the spread of the contagion, and so stop this arch fiend among diseases from stalking through the earth? This book gives just this information and much more that is equally interesting and of as paramount importance.

Tuberculosis is caused by the bacillus tuberculosis. It is an insiduous disease and attacks the lungs, the joints, the glands, the skin, indeed almost every organ of the body. It results in hard bunches, or tubercles, hence the name. The body fights it and so recovery is frequent, and then the victim would be safe from further infliction, except for a new planting of the seed germs. As I understand, there is no pus formed, no expectoration, and little danger from the spread of the disease in simple tuberculosis. Many indeed who have it little suspect the truth, and the author states that simple tuberculosis seldom proves fatal.

Consumption is a very different matter. This is a mixed infection. Here the tubercular bacillus that opened the door for the others, is attended by two other micro-organisms; the streptococcus, and the stephylococcus. These are the common bacteria of postules. These cause pus, incite to profuse expectoration or spitting, set free the tubercular bacilli, and so not only break down the tissues, but scatter the germs of all three of these ever lurking foes. Thus it is the consumptive, not the victim of simple tuberculosis, that we have most to dread. Yet the lesion of the lung, makes the ready seed bed for the more serious "micrococci."

The book shows that the sovereign remedy against these terrible diseases is NEATNESS. The consumptive should never use cloth or handkerchief. He should keep a paper bag in his pocket, and paper napkins in another pocket, and be sure to gather all sputa in the latter and put all these in the sack. He should be clean shaven, and wipe his mouth with the paper napkin but keep all as far as possible from his hands, his lips, or anywhere else except the napkin and bag. These should be burned. Obviously, the consumptive should never kiss, and the author says never shake hands. The table ware or drinking vessels that he uses should never be used by another tn. thoroughly washed. Sputa from the consumptive must be kept from the floor or rug, and if it escapes must be removed by scraping and washing with lye and water. Houses where the careless, ignorant or indifferent consumptive has lived must be thoroughly cleansed at any cost. It is no easy matter. When we think, however, of the irresistable and loathsome nature of the disease, we will not live in an unclean house, nor permit our loved ones to do so. The author makes it patent that the disease is not only held in check, or the rather kept from spreading, with due caution, but he shows that it is surely curable. Living out of doors is the best medicine. Throttling the disease before it has gained a firm hold and weakened all the organs is very important. We must not let an hour go by after we once know of its presence, before we commence to rest, to diet, to live out of doors, to observe every sanitary rule that will help the body to ward off the myriad fell destroyers.

So many consumptives come to our beautiful clime for relief that we are all peculiarly exposed. I urge that everybody buy this excellent book, read it aloud to all the household, then lend it to the neighbors, until it is worn out, then buy another, or a dozen, and scatter them broadcast. How can we possibly do more good? I have always believed that the 20th century would see the "white scourge" banished from all civilized countries; I now hope to witness the grand consummation.

* * *

RED SCALE AND CYANIDE.

Mr. C. A. Day fears that I may have hindered his efforts in his fight against the red scale. Surely if I have done so I wish to undo the wrong. Mr. S., a subscriber, asks if I would advise him to spray or fumigate for the red scale.

I would advise everybody to use the cheapest and best remedy. I have had neither chance to experiment or observe the red scale, as there are none about here. I have great confidence in both Messrs. Day and Pease in all matters pertaining to scale insects and the remedies for them. They both assert that fumigation is the best for the red scale. I therefore unhesitatingly advise Mr. S. to fumigate and let the others do the experimenting. I am very hopeful that we will find a cheaper way to kill the red scale. Mr. Mills is sanguine of the same. Until then all better fumigate for the red scale. Be sure to give a good quantity of cyanide, enough to slightly burn the foliage. I think Mr. Pease leaves the tents on the trees for a full hour. Will Mr. Day advise us in the matter.

Mr. Pease has already tried an experiment with spray for the yellow scale, and that will give us light regarding spraying for the red scale, as they are close akin, and what will kill one will down the other. Mr. Mills will do careful work. Mr. R. P. Cundiff, the able, cautious Horticultural Commissioner, who has so successfully used the distillate against the black scale in the Riverside orchards, will also experiment. We have also commenced investigations that will give the full life history of the red scale, and also determine the best way to fight it. Very likely the armored scales will succumb to the cyanide more readily than the liquid spray. If one fumigation will kill, and if two sprayings or more are required, then we will have to decide what and how. In the mean time I advise all orchardists, who are troubled with red scale to consult their Commissioners, and fumigate, waiting the results of experimentation.

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THRIPS AT COACHELLA.

Mr. A. E. Dilworth, Coachella, sends me leaves of cantaloupes, which he said were covered with fleas. I found no insects and sent for more, telling him they were probably either flea beetles, or thrips. I asked him to send more in a vial of water. They have come and are thrips. He says, "they have done much harm, but are now apparently disappearing." Very likely the rains did the work. Thrips breed continuously, and so unless some enemy, a rain or artificial remedy banish them they are likely to abide. I know of no better remedy for them than the distillate spray. Coachella ought to have a good sprayer for the colony, as both the thrips and the aphids could thus be easily fought.

* * *

BEES AND HONEY.

Mr. M. S. Phillips, Campbell, asks for information through the Cultivator. The bees he sends are the common black bees. I think there may be a trace of Italian blood as there is a show of the yellow color.

I would confine brood with full combs of honey, instead of dummies, and spread the brood and insert combs with empty cells as needed. In California, I would use full frames of honey always instead of division boards.

* * *

LIME FOR WALNUT BLIGHT.

Subscriber, Anaheim, asks if I think that the lime from the sugar factory would lessen the walnut blight. Mr. Ware is a very capable orchardist. I should be slow to reject a suggestion made by him. Why not try some of the lime, and see if it seems to harden the fiber so as to lessen the blight. If Mr. Kossert's walnuts were helped, others would be likely to be benefited.

THE LINNET EVIL.

I see that very high authorities a quoted to the effect that the linne do not very seriously injure fruit buc I wish the gentlemen could see n apricot trees. They are stripped clean that hardly a blossom shows n does the little scamp have any hel I never saw a single companion in t rascally work. I like the little fello but he does like buds, and I mu choose between him and apricots. far, I have given up the fruit. weary of this and wish some boc could apprise the little rogue of t fact.

It is not right to raise the boys avoid the milk pen, says Farm a Home. Train them up in the way the should go—toward the milk pen. Mil ing is good work for boys and men.

The ceaseless round of household work prevents the proper study dairying on the part of the wome The milk question is a side issue n worthy of study, or so considered many homesteads.

Fine Orange Trees

All Standard Varieties

Best Trees——Lowest Prices

Satisfaction Guaranteed

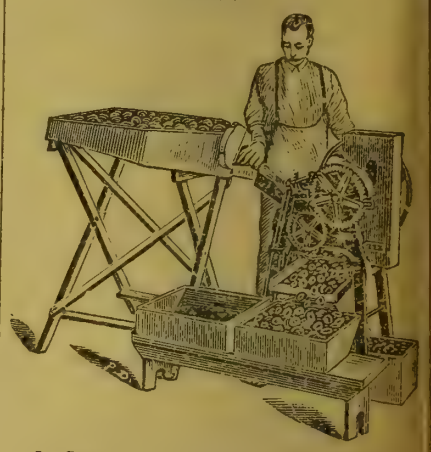
Citrus Trifoliata Seed Bed Stock

Correspondence Solicited

Armstrong Nurseries
ONTARIO, CAL.

THE "BRIGGS" NEW IMPROVED
FRUIT PITTING MACHINE

MODEL 1904



Is Practical In All Its Workings

It cuts the fruit entirely round and pits it more carefully than can be done by hand.

The work is done with wonderful rapidity, six pits being extracted at each revolution of the wheel, whether the fruit be large free-stone peaches or plums of the largest size. It is capable of handling

Two Tons of Peaches, and One Ton of Apricots Per Hour

Thousands of tons of apricots have been satisfactorily cut and pitted with these machines.

It Does Not Push the Pit Through the Fruit

But holds the pit firm while the fruit is carefully removed without being bruised. The pits are delivered separate from the fruit.

The Advantage of This Machine Is Very Apparent

As one machine and one man practically represent fifteen or eighteen cutters. This perfect machine, which is guaranteed, is the result of 12 years of experimenting and improving. These machines will be rented for the fruit season for fifty dollars each; for sale at $150 f. o. b. Los Angeles. Address

The BRIGGS-KNIGHT Mf'g Co.
336 E. Second St., LOS ANGELES, CAL.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

CARNATION CULTURE.

Mrs. C. E. M., Iomosa.—Carnations are gross feeders during the summer. They should be fed by a mulch of well rotted stable manure. Better still, some such fertilizer should have been worked into the soil before planting. Wood ashes and old lime and plaster are also excellent. Water freely and thoroughly at all times. A rather sandy soil is the best. By observing the above care we are certain that your plants will bloom.

* * *

SCARLET LARKSPUR.

Several complaints have been received that seeds of the above sent out by the Cultivator have failed to grow. The writer has tested these seeds in two places, in different soils and the germination was splendid. Reports have also been received from those whose success in starting them has been good. Further than this, the writer secured the seeds for size, sending out only those large enough to warrant good results. The small (and inferior) seeds were thrown out in the garden and plants from them have sprung up by the score. Too much watering and insufficient drainage will bring failure with this larkspur. They need a hot, dry situation; a loose, well drained soil.

* * *

RICE CULTURE.

"Southerner," Riverside.—The culture of rice as a field crop will never be a success in Southern California. Our cool nights prove the greatest drawback. If you wish further information, drop a line to Mr. J. W. Mills, Ontario, Cal. The query falls under his department though it is doubtful if many experiments in rice growing have been made in our section of the State.

* * *

GROUND COVER IN SHADE.

J. B. S., Fresno.—For ground cover under large trees nothing will surpass English ivy. Other plants for shade are: Aspidistra begonia, fern, fuschia and vinca. For shrubs: Barberries, hydrangas, native rhododendrons, St. John's wort and privets. Other climbers than the ivy (which grows readily on the ground, flat), are asparagus (3 sepcies), akebia, ampelopsis (Boston ivy, or Virgina creeper), aristolochia, clematis, mandevilla and stephanotis.

* * *

PLANT PETUNIAS.

For hot, dry situations the petunia seems to be best of all flowering plants. It will grow and blossom profusely where all native plants of like habit and nature will shrivel and die. During the past year seedling petunias have grown in a loose shale, a sort of rotten limestone, with not a drop of water all summer and they have grown to be the largest petunia plants we have ever seen. More than that, they have been solid masses of flowers during all of the past ten months. All around them the winter's rains started a great variety of native plants, both annual and perennial, but they all succumbed early in the summer, for lack of water. If you have not water for the garden, plant petunias.

* * *

JAPANESE GARDENS.

J. F. M., Pomona.—The general scheme for the whole garden should not be Japanese. If your place is extensive and a corner or plat be cut off from the main grounds such space could be made Japanese, but this style of gardening will not harmonize with any other. It should not dominate the whole grounds, for the reason that it will not suit the American style of house and, furthermore, Japanese aim to have their gardens curious at the expense of art, though many of their features have more or less of beauty. Stone lanterns, half-moon bridges, curious rock formations, pools containing gold fish, minature mountains, waterfalls, etc., are more necessary to such gardening than are plants. Such plants as are used in a small space are very expensive, as they consist largely of dwarfed trees, often a hundred or more years old and but a foot or so high. To be less sentimental and more economical, use bamboos, wistarias, Japanese maples (in cool shady places only), which dominate all Japanese gardens. Remember while building this style of garden that gardeners among "the little brown men" are bade to study nature in her more freakish moods and are not noted for reproducing artistic tastes. Personally, the writer regards the Japanese garden merely as a curiosity and only to be introduced in large grounds where its boundaries are well defined and the whole so masked that it does not obtrude upon the general effect or scheme.

HAY PROSPECT.

There is every prospect today that we shall have a good hay crop. Last year the hay was injured some by heavy rains coming early and continuing late into the season. The hay grew long and coarse, and lacked nourishment. It has taken more hay to carry stock over than for several years past, because of the inferior grade of the hay raised in the State. This year it does not appear as if the hay crop will be as rank as last. It will be shorter, more nutritious and therefore require less of it to feed than was the case last year.

From present indications feed will be reasonable in price as well as grain. Of course, if no more rain comes, the present outlook may change somewhat, but we are in no danger of a short crop as was the case at one time.

LOSS BY FLOODS.

The farmers and growers in the northern counties, and especially about the bay and near Sacramento and Stockton, are suffering great loss as the result of continual and excessive rains. The greatest loss to any one industry is that of the asparagus lands near Stockton. Bouldin Island, on which are the greatest asparagus plantations in the world, has been entirely flooded. One cannery alone packs 120,000 cases of asparagus each year.

These plantations are now under water and hundreds of families whose dependence was upon the labor afforded by the industry are left without immediate means of support.

Some of the acreage of Alameda county is still in good condition but that is exceedingly small as compared to the thousands of acres in Sacramento and San Joaquin counties.

BUSINESS NOTES

Getting results: E. E. Moore, one of the regular advertisers in the Jersey Breeders' Association column of the Cultivator, says he is getting returns from his little space which are most gratifying. In fact, his ad is proving most profitable, as is indicated by his sales, also by the following letters:

Upland, March 25.

E. E. Moore, Compton. Dear sir: I notice your ad in the California Cultivator of two bulls for sale. I want to get one shortly, [since then he has purchased one of Mr. Moore] and would like to know price, etc. Yours truly, John Morley.

Sacramento, March 21, '04.

E. E. Moore, Compton.

Dear sir: What do you ask for one of the calves and one of the pigs offered in California Cultivator; also give age, markings, etc.

Yours truly, Perkins & Co.

Messrs. Perkins & Co. are amongst the most discriminating breeders on the coast, and purchase these animals as having perfect marking and form.

* * *

Please do not advertise my plants any longer, as season is practically over. I have been well pleased with my advertising in the Cultivator. F. P. Baldosser.

Mr. Baldosser has sold an immense number of strawberry plants this season, and will doubtless be in the market another season with still larger number.

* * *

The Petaluma Incubator Co., having found its old quarters too cramped, has sold a part of its building on Main street, Petaluma, and will soon begin the erection of more commodious quarters in the rear of the present offices. The new quarters will have greater advantage in light and air, and will make much more economical handling of material than was possible in the old building.

* * *

The Pacific Tank Co. recently issued its new catalogue, No. 5, a neatly printed booklet of 60 pages and cover. It is full of useful information as to contents of various sized tanks, carrying capacity of pipes and facts regarding tanks and silos and their construction. Regarding silos and their construction the book says: Experiment with different styles has proved that a circular stave silo gives the best results under all conditions. Being easily erected without expert labor. The silage will settle uniformly, because there are no corners to fill out. It is easily kept in order because any shrinkage can be taken up by means of the screw lugs and hoops. It is the cheapest if cost of labor and material is considered. They are absolutely air-tight if properly erected. Can easily be taken down, moved, and set up again at small expense.

The book is profusely illustrated with half-tones and line cuts.

CLIMATE AND CROP REPORT

Alexander G. McAdie reports the following crop situation for the week ending April 11:

Clear, warm weather prevailed throughout the State during the week, with abnormally high temperature at the close. The maximum at San Francisco was 84 degrees, at Los Angeles and San Luis Obispo 96 degrees, Fresno, 90 degrees, Red Bluff 88 degrees, San Diego 78 degrees. Very light northerly winds prevailed in most sections.

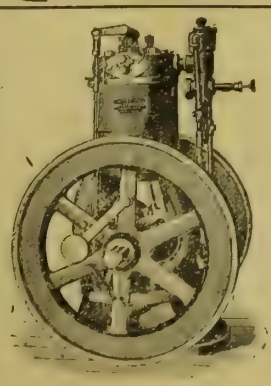
In Northern California the surplus moisture in the soil was considerably absorbed by the drying weather, and farming operations were resumed. In the south, where the precipitation has been hardly up to the average, the effects of the excessive heat and drying winds were quickly noticeable in the crusting of the soil and the yollow appearance of grain. Wheat, oats and barley are in fair condition in nearly all places except the overflowed districts, but it is now estimated that the yield will fall below early expectations, mainly owing to the cold, wet weather during March. The outlook is good for a large crop of hay. Barley hay and the first crop of alfalfa are being harvested in some sections. Green feed is abundant and cattle are doing well. Work in hop fields is progressing rapidly. Early green peas and other vegetables are being shipped. The broken levees in the Sacramento are being repaired as rapidly as possible.

With the exception of apricots, almonds and peaches, which in some sections were seriously damaged by the unfavorable weather during March, deciduous fruits are reported in excellent condition. All varieties have blossomed and generally give indications of large yields. Walnuts in the Anaheim district are about three weeks later than usual. Oranges are blossoming in San Diego county.

Remember, as the hot weather comes on your horse needs more water. And if he be a work horse, he needs it often. During very hot weather a horse that works needs water at least four times a day.

WOODBURY Business College.
809 S. HILL ST., LOS ANGELES, CAL.
New College Building, finest equipments. Strongest teaching force, superior bookkeeping shorthand and tyewriting methods. Write for illustrated College Journal.
E.K. ISAACS, Pres

Wm. H. Hoegee Co.
MANUFACTURERS OF
Lemon Curing Tents, Fumigating Tents, Fruit Picking Bags, Canvas Irrigating Hose and Everything in Canvas Goods at Factory Prices . . .
Write for further information. Send for catalog.
138-140-142 S. MAIN ST. LOS ANGELES, CAL.



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SIMPLE
SUBSTANTIAL
ECONOMICAL
SIZES: 1½, 2½ and 4 horsepower
For prices call on or address
E. B. STUART, AGENT,
111 SO. BROADWAY, LOS ANGELES

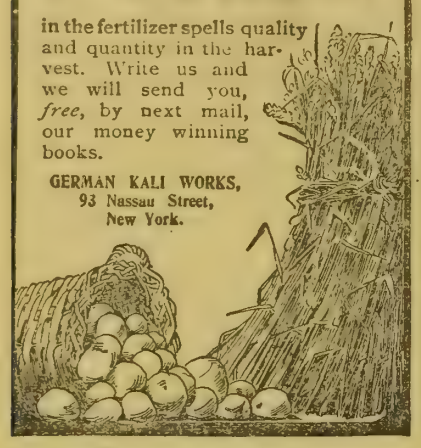
A Golden Rule of Agriculture:

Be good to your land and your crop will be good. Plenty of

Potash

in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, *free*, by next mail, our money winning books.

GERMAN KALI WORKS,
93 Nassau Street,
New York.



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Nitrate of Soda
and
THOMAS PHOSPHATE POWDER
For Sale by BALFOUR, GUTHRIE & CO.
San Francisco, Fresno and Los Angeles, Cal.
Write for pamphlets and prices.

James R. Townsend Francis M. Townsend
TOWNSEND BROS.
Solicitors of American and Foreign **PATENTS**
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Rooms 430-31-32-33 Bradbury Block, Los Angeles, Cal.

20,000 C trus Trees

Now ready for delivery. Washington Navels and Late Valencias. First-class, reliable stock. Get our prices before buying.
POLLARD BROS.
Alhambra, Cal.

JURUPA NURSERY CO.
Growers of Deciduous, Citrus and Ornamental Trees and Vines

THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
SEND FOR PRICE LIST AND CATALOGUE
Jurupa Nursery Co. Riverside, Cal.

THE
Vernon Nursery
4524 CENTRAL AVE.,
LOS ANGELES, CAL.

Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.

We still have a few of the finest two-year-old walnut trees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

A. YARNELL,
PROPRIETOR
4524 CENTRAL AVENUE
LOS ANGELES, CAL.

Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

LIVE STOCK.

The Downey Creamery paid over $4000 to customers on Monday.

The Corning New Era says John Cockcroft shipped East last week 12,000 pounds of mohair.

The Mirriwa stock farm, near San Francisco, has been sold to R. E. Lopez, of New York, who will make a great stock farm of it.

The Supreme Court has decided that George Greene must go to San Quentin for stealing a "brindle cow" and a "big bald-faced steer" in Monterey county.

HORTICULTURE.

The Lindsay Gazette states that two hundred acres of oranges are being planted in Tulare County this spring.

The citizens of Sacramento are engaged in a systematic campaign of tree planting. Several thousand trees have so far been planted this spring.

Prof. Elwood Mead and a party of students from Berkeley are examining the system of orchard irrigation with a view of ascertaining what improvements can be made therein.

The American Beet Sugar Company at Chino is planting five acres of its land about five miles southeast of town to eucalyptus trees. The planting is very largely in the nature of an experiment.

The Los Nietos and Ranchito Walnut Growers' Association, incorporated, held its regular annual meeting this week. The attendance was large. Secretary Montgomery's report showed the affairs of the association to be in a prosperous condition.

The Pajaronian says: At a meeting held on Saturday afternoon the orchardists of Pajaro valley put themselves on record as favoring a continuance of the codling moth investigation. They not only voted to have the work kept up, but pledged financial support to the movement.

AGRICULTURE.

Humboldt county is sending a fine variety of apples to market now and realizing the top notch prices for the same.

The price of grain bags has been fixed by the State prison directors at $5.40 per hundred. Not over 5,000 bags will be sold to one person.

Six hundred acres of the San Joaquin country land are being turned over every twenty-four hours by plows hauled by traction engines, says the Stockton Record.

Since the election of directors the Fresno raisin association is getting together with a view of settling their differences and promoting harmony.

The Coachella Valley Produce association has decided that during the cantaloupe season they will send 3 crates of cants every day to the World's Fair.

There are not enough onions being shipped to the San Francisco market to supply the trade and Oregon growers are furnishing a large percentage of the present market supply.

Rhubarb grown in the San Leandro valley, by the Rhubarb Association, finds ready sale. Had it not been for the continued rainy weather the sales this season would have been phenomenal.

Hunt Bros., cannery, of Haywards, is working on asparagus from the Contra Costa beds. The cannery at Antioch, where the pack has previously been made, will not run this year.

A dispatch from San Jose, of the 7th, reports the filing of a suit against a former manager of the California Packers' Company for accounting of 800,000 pounds of prunes alleged to have been sold.

Parties who have visited the Deer Creek country, in speaking of the grain prospects, say there will be a good crop for those who have sown, but that there is not half the amount of grain in at the present time there was last year at the same date.

The San Jose County Commissioners to the St. Louis Exposition have informed San Jose grange that they would appropriate space, fuel, lights and water and $100 a month for six months for the purpose of demonstrating the many uses of prunes and other cured fruits at the fair.

The Anaheim Gazette says: "The farmers' institute held at Anaheim merited a much larger attendance. Many interesting papers were read during each of the five sessions, and these called out from those present discussions which should have been heard by a crowded hall." The season being somewhat backward is crowding farmers and accounts in some measure for the lack of attendance at the institutes.

In making an annual report to the Department of Agriculture of the losses among the live stock of Shasta county, Leon Leighton, the department's representative, gathered careful estimates from different parts of the county. These estimates indicate that losses from exposure and starvation have been: For cattle, ten in every 100; for horses, three in every 100; for sheep and goats, about twenty in every 100; for hogs the loss has been insignificant.

The Fresno Evening Democrat says: "The bankers have filed the $500,000 mortgage which they hold on the hold-over raisin crop. It was executed on December 7 in favor of O. J. Woodward. The filing of the mortgage gives the bankers the right to foreclose at any time, and is taken to protect them in the matter of the money loaned. The raisin collateral must be sold at a price that will liquidate the debt to the bankers, or the crop can be held over indefinitely, which would make it a thing of terror and a menace for the crop of 1904.

The farmers' club of San Jose, comprising a very large contingent of fruit growers, at its meeting a few days since, decided to, and did, endorse the report of the committee of fifteen appointed in accordance with a resolution passed at the twenty-ninth annual State Fruit Growers' convention held recently at Fresno, and which held a two days' meeting at the Palace hotel, San Francisco, recently, to advise and put into effect a plan or plans to secure co-operation among all the producers of dried fruit throughout the Pacific coast.

A large force of men is now engaged in rebuilding the fruit canners' association building, wrecked at Borden, California. General Manager Fontana says asparagus packing will probably begin there by April 15. Although some of the other beds of the association are becoming old, thus limiting the crop, the 700 acres at Borden will give a large yield. The association also has large asparagus beds at Milpitas and Sacramento. Orders are reported heavy this year and it is thought there will not be more than half the crop in the State as a whole.

I. T. MARTIN Furniture and Carpet House
531-3-5 S. SPRING ST.
The place to buy good Furniture, Carpets, Mattings and Stoves Cheap. 3 x 7 Window Shades 35c.
ALL GOODS GUARANTEED AS REPRESENTED

BERRY PLANTS
Gray's Gardena Dewberries. These berries are in the lead. Very early, best quality, heaviest bearers and good shippers.
For descriptive list address
W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

200,000 Strawberry PLANTS
Arizona Everbearing from Eastern Plants. Guaranteed to be first-class in every respect, not mixed with any other kind, at $1.50 per thousand, if ordered within ten days.
G. W. MULLENDORE Covina, Cal.

Strawberry and Dewberry Plants
Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.
A. E. Harrington Montebello, Cal.

Wagner's Nursery
PHONE SUBURBAN 108 PASADENA, CAL.
Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

CITRUS NURSERY STOCK
Valencia and Washington Navel Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.
PERRY LEWIS TUSTIN, CAL.

REMOVAL
Our new address is
750 S. Spring St.
Opp. P. O., instead of 542 S. Spring St.
Fruit and Shade Trees
Ferns, Pansies, Roses, Etc.
Home Grown, True to Label, Lowest Prices
.... PACIFIC NURSERY CO ....
WHOLESALE AND RETAIL
1008 E. 32d St. Tel. Home 7438
750 S. Spring St. Home Tel. 9012

ALIAS SUMMONS.
No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

Citrus Seed Bed Stock

Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.

B. C. BENNER, Box 13, San Dimas, Cal.

Geo. B. Warner's . . . Est. 188

Orange County

Nurseries

SANTA ANA, CALIFORNIA

Grower and Dealer in Citrus and Deciduous Trees of all the Standard Varieties. Walnut Trees a Specialty. Budded Loquats, Roses, Grape Vines, Berry Plants, Cypress, Umbrella Trees, Camphor Acacia, Shrubbery, Blue Gums, Palms in Variety. Only Clean, Healthy Stock Offered.

Residence, 202 Hermosa St.
Sales Yard, Cor. Main and Sixth Sts.

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California Portland Cement

MADE AT COLTON

Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.

SEND FOR CATALOGUE

California Portland Cement Co.,
401-403 TRUST BLDG.,
LOS ANGELES, CAL.

We have LAND PLASTER for sale

WE HAVE 20,000 Eucalyptus Rostrata

Left, and are cleaning them out at $10.00 per thousand. Specially quick orders are necessary to secure goods this season. We are now contracting to grow for next season. Let us know your wants.

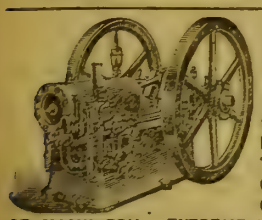
The J. W. Armstrong Nursery Co.

POMONA, CAL.

POMONA DEEP WELL PUMP

Long stroke, steady movement, runs smoothly, and is perfectly noiseless.

POMONA MFG. CO., POMONA
or Fairbanks, Morse & Co., Los Angeles



WEBSTER GASOLINE ENGINE.

RUNS LIKE A WATCH FITTED WITH ELECTRIC SPARK. WILL OPERATE A PUMP OR RUN ANY KIND OF MACHINERY. EXTREMELY SIMPLE. BUILT UPON HONOR. EACH ENGINE GUARANTEED .. ..

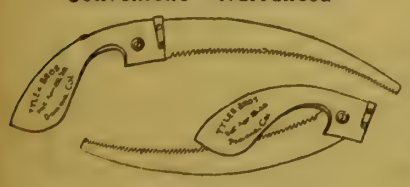
Send for Catalogue. Mailed Free.

WOODIN & LITTLE,

312-314 Market St. SAN FRANCISCO, CAL

THE POCKET PRUNING SAW

Convenient—Warranted



Try It—If You Don't Like It, Return It.

IT JUST FITS THE HIP POCKET

The teeth of this saw are disposed at right angles to a straight line from the grip of the handle to the point of the blade, thus permitting the same ease of operation its full length. The peg or cant tooth makes it particularly adapted for green wood. It will not clog or gum. Recommended by all who appreciate a first-class pruning saw. **Price $1.00.**

DEALERS WANTED EVERYWHERE.

GEO. R. TYLER Pomona, Cal.

Coast News and Notes

CONTINUED

MISCELLANEOUS.

The San Dimas Irrigation Company are to put down another 14-inch well at their "Fort Smith" plant.

The Corona Courier laments the failure to vote $20,000 for school bonds by the voters of that town last week.

Santa Ana will hold an election on May 7th to vote on the issuing of $35,000 bonds to build a union high school.

The exhibit from Sacramento sent to the St. Louis exposition this week is pronounced the finest ever sent from the Sacramento valley.

The home for feeble minded children at Glen Ellen, is so crowded that 180 unfortunate children who should be cared for can not be admitted.

The steamer Korea, from the Orient, brought 7,000,000 yen in Japanese gold, Saturday, to be recoined into American money at the mint in San Francisco.

The Unitarian church and Woman's Aid Society have decided to hold a rose carnival in Pomona in May. The Times expects a large and beautiful demonstration.

The water of the Sacramento waterworks is so filled with sand and mud as to raise doubts of its sanitary condition. Floods are responsible for the trouble with the water.

A recent estimate shows that the United States government now has left 100,000,000 acres of land on which, with irrigation and other improvements, men might live.

The Santa Ana Ebell club has inaugurated a movement to plant California poppies along the streets and highways of the county through the agency of the public school children.

The State Board of Bank Commissioners has issued a license for the establishment of the First National Bank of Highland, at the town of that name. The new institution is capitalized at $30,000.

An effort is being made through Congressman Bell to have a light house established on the coast off Mendocino city. The light house board at Washington will recommend that the improvement be made.

Articles of incorporation for the Garvanza Improvement Association have been filed. The capital stock is $10,000. The purpose is to inaugurate a system of street and other improvements in Garvanza.

The secretary of the Redlands board of trade reports that the subscription to the support of that organizaion for the current year aggregates to date $3,522.50. That insures some active work by the board for the year 1904.

Orr hot springs, a summer resort 11 miles east of Ukiah, was burned on Tuesday night of last week. The fire was started in the hotel and spread to the cottages and bath houses. The buildings and furniture are a total loss of $20,000.

At Coachella, an ice company has been formed to build an ice plant, to furnish ice for eastern shipments, in connection with cold storage and creamery. The capital stock of the company is $100,000. The ice plant will cost in the neighborhood of $35,000.

Building operations are projected in Pasadena for the summer that will amount to over $500,000. They include a $60,000 block, a $60,000 residence, a Masonic temple, a Congregational church, a new grammar school and a number of residences costing from $0000 to $20,000.

Plans are being perfected for the establishment of a starch factory near the town of Lompoc, so the Record avers. It is proposed to organize a company with a capital stock of $50,000 and to begin the construction of a factory in the immediate vicinity of Lompoc.

The Phoenix Water Works company filed suit this week for an injunction to restrain the municipality from issuing and selling $300,000 of bonds recently voted for the construction of a municipal water works system. The ground of complaint is an existing contract between the city and the plaintiff.

An eastern dispatch gives the intelligence that President Benjamin Ide Wheeler is considered the most likely candidate for president of the University of Illinois, to succeed President Draper. The Cultivator trusts President Wheeler will remain right where he is. California can not afford to lose his services.

Transportation managers estimate that Nome and the lower Yukon districts in Alaska will call upon the United States for not less than 100,000 tons of freight during the coming season. Seventeen vessels, steam and sail, are engaged for the traffic. Several sailing vessels will start early next month and the steamers will get away about June 1st.

The people of San Francisco are again disturbed by the prospect of another big street railway strike which may be declared within the next few days. The carmen's union has thrown down the gauntlet to the United Railways and the next move will be from the officials of the corporation. What their action will be may be predicted by the decisive manner in which they refused to accede to the demands of the union.

The State of Nevada brought suit this week at San Francisco in the United States Circuit Court against the Floriston Pulp and Paper Company, located at Floriston, Nevada county, to restrain that corporation from continuing to defile the waters of the Truckee river, Doner lake and Lake Winnemucca. The complaint charges that the acids turned into the river from the mill kills the fish and renders the water unfit for domestic uses.

Alameda and Santa Cruz are vieing with each other to see which can get up the biggest boom for their respective towns and counties. The Santa Cruz Promotion Committee has adopted a novel feature to advertise its section. It announces that this week it will give two open-air concerts in Sacramento. It has a band of twenty-five pieces, and has requested the Sacramento Chamber of Commerce to procure the Plaza, or some other suitable place, for the concert.

Negotiations have been closed by the Pacific Steel Company for the purchase of extensive coal land near Tacoma. The purchase price is $650,000 and the property consists of coal land, railway extensions and a coking plant. Another deal is closed for the purchase of 320 acres owned by the Tacoma Coal and Coke Company, of 1728 acres leased from the Northern Pacific Railway Company, and 1435 acres, the controlling stock in which is owned by the Tacoma Coal and Coke Company.

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THE FARMER AS A FACTOR.

In the several distinctive lines of operative life in this country, the average person is apt to give but a cursory glance at the productive industries, and is disposed to rate manufacturing, merchandizing and transportation ahead of agriculture. The estimates of such an observer are vague and intangible. His conclusions, not properly based, are mere guesswork and are, as to material facts, valueless. Every man should be considerate enough to look along the several lines of active industry and see what his country is doing. A glance at the annual reports of the industrial conditions of the several States or at the reports of the Agricultural Department at Washingon, or at the general census exhibit of industries, will show that our farm industries rank first in magnitude, first in importance and the greatest in results. The value of the output of all the gold in the world for last year—or for any year, for that matter—would not amount to more than half as much as the value of the wheat crop of this country for the corresponding period; and the corn crop was worth more than twice the value of the wheat! It has been the farmers' exports that have enabled this country to maintain its balances on the right side of the national ledger during the past decade. That balance was almost five billion of dollars. It was sufficient to cover the deficits of all our other lines of business and to put $4,000,000,000 to the credit of our nation. Is it any wonder that our securities command a premium in the old world?

The total value of the farm products is almost beyond computation. Let us take a few of the leading staples for illustration: The average wheat crop is 600,000,000 bushels per year. Average value, $400,000,000. The average exports of wheat per annum, for the past five years were 204,000,000 bushels.

The estimated value of the corn crop for last year was $800,000,000. If one should estimate the value of the by-products also, it would amount to a round billion. Corn is king. Oats show a volume of a billion bushels, having a cash value of $300,000,000. The value of the barley crop will equal that amount. The rye crop makes a respectable return of $100,000,000.

From an authentic source it is shown that the rice crop amounted to 300,000,000 pounds, which at a low valuation would be worth $15,000,000.

For hay, hops, flax, hemp and tobacco we have no data at hand, but it is safe to assume that the values of these products would amount to a billion dollars at least.

The time was when the great staple of cotton held the scepter and it is possible that it may do so again. Our exports of this product amounted to 313,000,000 pounds last year, yielding the gross sum of $317,000,000 in gold. Improvements in cotton culture are bringing it up to a standard as high as that of the South Sea Island product.

The sugar from beets last year was 520,000,000 pounds. The cane product was 850,000,000 pounds, making a total of 1,370,000,000 pounds. On a valuation of 3 cents per pound this would yield the sum of $411,000,000. In addition to the foregoing items, if one should add the lists of live stock, not to mention dairy and poultry products, the sum total of values would be more than equal to all of the manufactured products, the material items of transportation companies and the cash assets of the banks in the entire country.

The careful, intensive methods as now practiced by the farmer, has reduced farming to a science. The adoption of systematic business methods has placed the farmer in the front rank of business men; and the business of farming is as well based as that of any other line or vocation. In this development of the industrial progress of this country, the farmer has kept abreast with the times. He has become a leader in the world of science, in wealth, in enterprise and as a potential factor is foremost. He is confronted with many problems, chief of which are labor, transportation and the markets. That he can and will solve these questions on a fair and ethical basis there can be no doubt. He holds the key to the field of economics and is conscious of it.

SCARCITY OF FARM LABORERS.

The most important question that can engage the consideration of agricultural associations is that of labor for the farms. Farm laborers are becoming scarcer and scarcer and the quality of work performed is growing more and more inferior.

There can be no useful discussion of this question except in connection with the subject of immigration, for immigration seems to offer the only practical solution. There has been a noticeable restlessness on the part of farm laborers for a number of years, manifesting itself in many ways harmful to the agricultural interest.

In some particulars the farmers are to blame for this condition of things. They have not provided for the comfort of their employes in lodgings and in food as they should have done, not in all cases, but in too many, with the result that the better grade of laborers have gone into other avocations, which afford better openings for the cultivation of the mind and greater attractions for living. The solution of this whole question of farm labor lays in the inducements the farmer can offer help. If he makes the surroundings of his home pleasant and provides for the entertainment and comfort of his help he will overcome, to a considerable degree, the objection at present urged by the farm hand against the farm.

Australia and New Zealand are becoming great buyers of California oranges and lemons. These colonies consumed about 9,000 boxes last year, and the demand for navel oranges is increasing. They also took 15,000 boxes of apples and 9,000 boxes of onions.

The Citrus Situation...

Little has been done this week in the matter of bringing the investigation of the charges of Abbot Kinney against A. H. Naftzger of the Southern California Fruit Exchange to a head because the jury has not as yet been empaneled. Mr. Naftzger, some days since, announced his selection of three members, Messrs. Frost, Jennison and Slauson. Mr. Kinney now selects three men, George J. Mitchell, C. W. Foot and John Burr. These six men, it is said, will meet this week and select a seventh, when the case will be called and the investigation open in due form.

Just how long the proceedings will occupy the attention of this board of examiners it is difficult to say. The charges made by Mr. Kinney are so serious and far reaching they may require a long time to exploit. If he shall insist, or Mr. Naftzger shall insist, on a full and complete examination of the records and accounts of the office in order to prove or disprove the charges filed, an all summer job appears in view for the committee.

We suspect one or both parties in interest may demand that this be done, and it may be best that it shall be done, for then, at the conclusion of the investigation, the orange growers will be in possession of all the data covering the charges made by Kinney, and the controversy on these points will be forever settled—one way or the other.

* * *

There are those who contend the investigation will never be concluded; that obstructions will be made, on one ground or another, which will delay proceedings to such an extent that no conclusion will be reached. It is to be hoped no unnecessary delay will attend the hearing, but that everything possible will be done in fairness to both sides, so that the end may speedily be reached, for it is certain the orange industry in California is not being benefited by the controversy now going on. Capitalists will hardly feel like purchasing orchards and engaging in the business of raising oranges so long as it is charged that dishonesty and incompetency exist in the management of the Exchange. Advantage is being taken of every unfavorable condition in the California orange situation, by those seeking to boom the Florida, Cuba and Porto Rico orange trade, and it all hurts. Hence, the importance of getting to work, disposing of the charges made against Mr. Naftzger and clearing the atmosphere of the doubts and disagreements which at present obtain in the public mind.

One of the singular things about this whole matter is the unanimity with which members of the Exchange stand by their association and their president. There isn't a single "kicker," so-called, we have heard from who is a member of the Exchange. There are many who say, "we are disappointed at the results of last season's work. We do not know why we are not receiving more for our fruit, but we do not believe there is any dishonesty in the management of the exchange." This certainly speaks well for the president in whom these growers place implicit confidence, and it shows how firmly attached they are to the institution of which they are members. They well have to be shown wherein incompetency or dishonesty exists before they will align themselves with those who are seeking to destroy the Exchange.

The old and homely saying, "it is not wise to swap horses in the middle of a stream," applies with much force to the situation of the orange grower today. Experience in the past has taught some salutary lessens to the California citrus grower, and none is more firmly impressed on his "pocket" than the old plan of individual marketing. The Cultivator does not say that the methods in force by the Exchange for getting results for citrus growers may not be improved upon. It is possible even probable, they may, but they certainly will not be unless the best thought of the best minds interested shall be given to solving such questions as are now troubling the growers.

The Cultivator's New Press

The California Cultivator, published in Los Angeles, is fast gaining favor all over the State and now has more than 10,000 regular subscribers and has been increased in size from 16 to 24 pages. This growth made it necessary to secure a larger press and a new folder, and last week "it was printed on its own two-revolution Cottrell press, one of the largest flat-bed presses in use today in this State." This substantial success is the reward of merit, for no more practical, sensible and able paper of its class is published in the United States.—Los Angeles Herald.

PROGRESS OF IRRIGATION.

Congress has so far not done as much in irrigation matters this session as it has been hoped it would do. It will be remembered that the President, in his message, last December, called attention to this feature of the nation's industry in strong terms, urging congress to take up irrigation in the West, and provide assistance for States in need of it. He referred to it as a subject of great importance and said "a good beginning has been made." And he further said that "so far as they are available for agriculture, and to whatever extent they may be reclaimed under the national irrigation law, the remaining public lands should be held rigidly for the home-builder, the settler who lives on his land, and for no one else." That policy will be cordially approved by the people. It is fortunate that President Roosevelt has resided in the far west and knows from observation that the time has come for national-aided irrigation, for proper measures of forestry, preservation of game and protection of the public domain from illegal schemes. It is certainly time to look to these matters and to the development of the arid districts of the West, where thousands of Americans are only waiting for irrigation to make homes.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

RESULT OF LEVEL THINKING.

Within the last week there has been manifested a decidedly better spirit among the orange growers. Panicky, pessimistic views have given way to the sober second thought. Optimistic feeling does not yet predominate, but reasoning does, and we may depend upon the latter to dominate the situation and finally to relegate to the rear all agitation not inspired with the idea of betterment and all discussion not pointing to a better way. Better spirit has been inspired by a number of causes. In the first place too many commission men have taken themselves off the shelf, and, with pen in hand have declared themselves to be the only factors that can save the orange industry. This is enough to give the orange growers the nightmare, were it not that they have too much confidence in the sanity of themselves to let the orange business ever again come under the control of such a band of irresponsibles. Whatever may be in store for the orange growers they could not sleep without chloroform if they believed it would ever come to commission dealing again.

In the second place the late attacks upon everything that is in sight are falling flat with the public. The attendants at mass meetings may be counted upon the fingers and toes of the self-imposed chairmen. The fires of faultfinding enthusiasm flicker burn low and finally fail, as the mass meetings flash up with oratory, burn low with readable resolutions and fail to get enough following to form a working committee. The writer recently made a prominent Riverside grower angry by telling him he had been appointed upon a kicking committee. Whether any change of organization occur, it is now plain to every grower that the reformers will be chosen from those who have all the time been striving for better results through co-operative organization. Faultfinders cannot lead the American even in the way he wants to go, and he avoids their alleged mass meetings with a persistency that is the most hopeful phase of the present situation.

Thirdly, the public pulse has been steadied by the persistency with which men refuse to tumble into trial committees upon the side of the accusers who think they can discover discrepancies from a distance that the penetrating business sense of J. S. Slauson, General Jennison and George Frost cannot discover with their eyes looking right in the face of the administration. The writer is intimately acquainted with the two first named gentlemen and does not believe there is a man living who could hoodwink or program either of them upon a proposition in which they were financially interested. "Farmer" Slauson is no easy mark for a man accredited with ten times the ability of the accused gentleman, and he and his children have 700 acres of bearing citrus fruit trees in the Exchange, enough to make him study his marketing agents at close range.

The "fetching" proposition of selling all California oranges upon f. o. b. orders has done more than anything else to imbue the public with faith in the men who are sacrificing themselves upon the rostrum of mass meetings and immolating themselves in Spencerian resolutions. Of course the eastern fruit dealers will come to the auction block at Colton, and diluge the growers with orders for fruit at opulent prices. These alleged buyers are plain brokers and commission men at all times save in a crisis like the present. They are noted for the high capitalization of their business. At the high prices they would offer for fruit with no other outlet to market, they would have to put up three of four million dollars a month during the entire shipping season—a mere trifle to men with so much invested in roller-topped desks and other mobile office furniture. If there is one thing more than another that the reformers have done to steady public sentiment (against them) it is the suggestion that the orange growers await supinely for these eastern dealers to appear, here and offer living prices or any prices for a heavy lot of oranges.

The most reassuring circumstance of the present agitation is the pity shown by the "new talkers" for the commission man who has been put out of commission. The heart of the evening press bleeds for him editorially as freely as the commission man bled the fruit grower before the co-operators shut out this class of dealers, several years ago. Because, forsooth, the orange grower could not live with the commission men in the saddle, one of these commission men has been driven away from Los Angeles and the city has lost the investments he would have made in this city. He says so himself, and upon that statement the editor's soul goes out in compassion toward injured California. The utter paucity of such argument! But it is good to know that the common sense of the orange growers is asserting itself against the specious claims and frantic appeals of the agitators. Nothing but sound sense will have a hearing when re-organization day rolls around. Whoever is deficient in that, will prove himself long before the issues come up for their annual settlement.

CITRUS FRUITS

INSECT CONTROL.

A paper read by S. A. Pease. Horticultural Commissioner of San Bernardino County, at a Farmers' Institute at Cucamonga last week:

The subjects given horticultural commissioners to prepare articles for Institutes, etc., appear to always have a sameness, and yet times and methods change to some extent even in a short space of time. It might appear to one not closely in touch with this line of business that once the method of control for any given kind of insects was established, that it would always remain the same.

This does not prove to be the fact in many instances, as the habits of some of our pests change—new features arise and improved methods are brought into use. Hence, speaking from my own personal experience, I have no hard and fast rules that will apply in all instances but on the contrary find it very necessary often to be governed to an extent by circumstances.

In times past I had thought that all insect pests could be exterminated by the proper use of hydrocyanic acid gas. When the Florida red spider appeared in force we found that the application of this method would not kill the eggs. In some localities it appears to be not always possible to find L. Olias to be all in the proper condition to make the gas method perfectly satisfactory. The eggs should all be hatched out.

It used to be considered when spraying that if 80% of the tree and leaves were wet with the insecticide used that it was a good average application. Now, however, with our improved power sprayers it is possible to cover 95% or a little better even than that. There are instances however in the spraying business where one insecticide will apply to all kinds and conditions of insects. I will cite one instance. Most insects are killed by the most direct application of insecticide. In case the insects are Red Spider on citrus trees our experience is that the sulphur-potash solution is by far the most effective. The insects are not killed by direct contact, but are killed by the fumes of the sulphur. The fumes continue to be strong enough to kill the spiders as they hatch for a period of time sufficient for all the eggs on a tree.

On deciduous trees we spray while the trees are in a dormant condition and the eggs of the Red Spider, Bryobia pratensis, have not commenced to hatch. We have been using by advice of Dr. L. O. Howard and E. L. Marlatt of the Department of Agriculture, double the ordinary strength of 5% distillate and on part of the trees the salt, lime and sulphur. Both these methods appear so far as we are able to determine at the present time, to be quite successful. Yet not sufficient time has elapsed to fully determine their efficiency.

We have also used 5% of distillate on dormant apricot trees affected with black scale with good success. We have been using the regulation dosage of distillate, 2% on orange trees affected with yellow scale. This was done for the purpose of keeping this pest in check as it is supposed in many localities to have an effective parasite. This parasite had failed to prove satisfactory in our case and as many of the trees affected were much too large to be covered with our largest tents, and as the trees interlocked, it was evident that fumigation would be extremely expensive. I feel very sure that the best method that could be used here would be to bud the seedling trees to Washington Navels or other desirable variety.

In the matter of the red scale we have very few orchards affected. This being the case, the matter of expense is not to be considered and we fumigate and hit them hard and always feel the assurance that we are hitting 100% of everything under the tent.

Further than this, prevention is a far better method of dealing with them than allowing them to be brought in, and to this end we have just secured the passage of an ordinance to prevent all bad insect pests from being transferred from one district to another or from being brought in from outside points by means of trees, shrubs, etc, or on picking boxes—ladders, picking sacks or other devices that may have been used previously in any infected locality.

It does seem peculiar to one who is acquainted with dangers of infesting a clean locality, how persistent some individuals are in wishing to avoid the ordinance on account of the difference of a few cents in price or rather the low price at which infected trees are offered.

If one would stop for a moment and think he could certainly see that if some men have trees affected with dangerous insects they would sell them at any price in order not to lose them entirely.

Aggravated instances in the case of grape vines from phylloxera infested districts have developed in this county. Vines have been shipped in and labeled as trees in order to escape the quarantine.

Such cases are certainly poor business methods and ought to mitigate against such persons. Every rancher should be most deeply interested in these matters as he is certainly the one affected when a new pest is brought into his neighborhood by any method.—S. A. Pease.

FOREIGN ORANGE MARKET.

The Riverside Chamber of Commerce has taken up the subject of opening a market for oranges in the Orient. It has been held by practical investigators that the Orient will be the outlet for California oranges in the not far distant future.

The following letter was received from the Department of Commerce in response to one written by the president of the chamber:

Department of Commerce and Labor,
Bureau of Statistics.
Washington, March 29, 1904.

Mr. E. A. Chase, president Riverside Chamber of Commerce, Riverside, Cal.—

Sir: Your letter to the Secretary of Commerce and Labor, suggesting whether there may be an opportunity for opening up a market for American oranges in the Orient or elsewhere, has been referred to this bureau. An examination of the reports of our consuls in past year fails to develop any sufficient information upon which to base an intelligent reply, and I presume the best method of obtaining definite information would be a general inquiry among the consuls of the United States in the foreign countries. If you deem such inquiry desirable and will forward a series of questions such as you desire presented to the consuls, I shall take pleasure in recommending that they be forwarded and copies of the replies furnished to you. You will of course, understand that it is customary where inquiries of this general character are made in the interests of an industry to publish the information so obtained for the general benefit which may come to the industry and to our commerce, and it would be desirable that the responses of the consuls be given publicity through our daily publications, "Daily Consular Reports," but I can, if desired, send proofs of the matter to you in a few days in advance of its general publication.

I make no suggestion with reference to the questions to be offered since, of course, your experience and that of the members of your association, give you special qualifications for this, but I will take the liberty of suggesting that the inquiries can with propriety cover all questions relating not only to markets, but transportation facilities, methods of handling and sale, popular demand, tariffs and other trade regulations, etc.

I send you under separate cover a few copies of our consular reports which discuss fruit crops and markets in a limited way. Respectfully, O. T. Austin, Chief of Bureau.

The president was authorized to frame a suitable list of questions to send to the department.

Mr. Moulton stated that he had shipped several cars of oranges to Sydney, Australia, and one car to Hongkong. Regular shipments of lemons had been made to Manila for some time.

C. H. SESSIONS, ASSOCIATE EDITOR

SHORTHORN NOTES.

John Lynch, the dairy shorthorn breeder of Petaluma, has just added some fresh blood to his herd from the best dairy strain of that breed to be found. Mr. Lynch has always believed in the dual purpose cow and has built up a fine herd along those lines. Regarding the animals just added Mr. Lynch says:

"These bulls were got by 'Clay Buttercup' No. 195881, whose sire, 'Imported Duke Buttercup' No. 160769, was imported from England in 1900. His dam, Duchess Butterfly, gave 8974 pounds of milk in forty-four weeks with her first calf.

On the matron's side are the famous 'Clay Families.'

"Christmas Clay gave 7,000 pounds of milk last season. Kitty Clay 15th., 8,800; and Kitty Clay 4th., champion shorthorn cow at the Columbian dairy test in 1893, stood third for net profit in thirty days' test, competition open to all breeds. She gave in this test 1,593 pounds of milk, which made 62¼ pounds of butter. Two years later she gave 5,000 pounds of milk in three months. Her weight in milking condition is 1450 pounds."

SOME FACTS ABOUT BUTTER TESTS.

Editor California Cultivator: I believe that most of the members of the Southern California Jersey Breeders' Association are readers of your paper, and I desire therefore, to state in your columns certain facts about butter and butter fat tests so that all may have a clear understanding about the requirements of the American Jersey Cattle Club in making such tests. I desire, also, to stir up as much interest in this question as possible, as I believe we have many cows capable of making good showings, and that our local association can do no better work than to encourage and assist its members in showing the public as well as themselves, what their cows can do.

In the first place, private tests of churned butter, or Babcock fat estimates or milk yield, may be made by the owner and reported to the American Jersey Cattle Club and will be enrolled among the records of the club, if the results come up to the following standard: Of butter, 14 lbs. in seven days, 180 lbs. in ninety days, 500 lbs. in one year; of butter-fat, 12 lbs. in seven days, 153 lbs., in ninety days, 425 lbs. in one year; of milk, 1100 lbs. in thirty days, and for one year, ranging from 6000 lbs. to 10,000 lbs., according to age. In addition to its records of private tests, the A. J. C. C. has a Combined Butter Test Book and an Authenticated Babcock Fat Estimate Book. In making seven-day confirmed butter tests or Babcock fat estimates, the testing must be done by a representative of some experiment station or agricultural college. In making authenticated Babcock fat estimates for one year the owner of the cow has only to keep a record of each milking, and for at least two days in each month the above mentioned official testor must make a Babcock test of the milk, which test is to be used in calculating the butter-fat yield for the month.

Whenever a cow makes a confirmed butter test or fat estimate coming up to the standard set for private tests, the A. J. C. C. pays half the expenses. In addition to this, the Southern California Breeders' Association has agreed during the coming year to pay $5 towards expenses to the owner of each cow making a confirmed butter test or butter-fat estimate.

I think I may safely say that the prevailing sentiment among the members of our association is strongly against private tests and in favor of having such tests made by some one in an official capacity, in whom the public will place the utmost confidence. We are, however, confronted in this respect by the impracticability of bringing down a man from the State University every time we wish to test a cow, and especially is this out of the question in making yearly fat estimates, which would require ten or twelve trips from Berkeley. On this account the A. J. C. C., at our request, has appointed Mr. C. S. Burgess, of Arlington Station, Riverside, as official testor for Southern California, and, as I understand it, will accept tests made by him as authenticated tests. I think we all regret exceedingly that there is no disinterested person that we know of in Southern California, who would be able to travel about and make these tests and give them the official stamp, and much as I deplore it, we have had to appoint one of our own members or go without making any tests. Mr. Burgess is thoroughly posted in the dairy business and in making tests, and possesses the confidence of everyone who knows him, the only possible thing that can be said against him in this conection being that he is a Jersey breeder, so that some of the "Doubting Thomases" in other sections who are strangers to him might think him prejudiced. I trust, however, that the public will understand the situation and not accuse us of appointing one of our own men for the purpose of padding our tests. With your permission I would like to say a few more words on this subject of tests in a later issue.—C. W. Leffingwell, Jr.

SMALL MARGINS FOR THE BEEF COMBINE.

The Drovers' Journal publishes an interview with a large packer, showing that after all there is a very small margin of profit for the meat combine. He is quoted as saying that one-fourth of a cent profit per pound of carcass would make him more money than he ought to have. And that this view of the case is backed by John Cudahy, who says that there isn't more than twenty-five cents per carcass profit in the slaughtering business, and it takes mighty close and careful management to make that. The one-quarter of a cent per pound profit would mean two dollars net on an 800 pound carcass of beef. It would mean nearly $14,000,000 annually on the beef killed at Chicago, Kansas City, St. Joseph, Omaha and St. Louis. It would

Angelus Herd of Guernseys
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YOUR BUTTER PRICES can be easily advanced if you have a DE LAVAL CREAM SEPARATOR. Every large and experienced dairyman knows that the DE LAVAL machine stands for the latest and best in separator perfection. Insures purity of product. Saves time, labor and money.
INCREASES THE VALUE OF EVERY COW.
ESPECIALLY VALUABLE IN HOME DAIRYING.
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DE LAVAL DAIRY SUPPLY COMPANY,
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COOPER S.C.

mean nearly $22,000,000 profit on the beef killed in the United States annually.

"The five big packing companies, "he says, "would be content to net $3,000,000 each annually on their kill of beef. Swift & Co., the biggest beef killers in the country, only netted $2,500,000 last year on all their business. This concern killed about 1,700,000 beeves during the year, and more of hogs and sheep, also quite a number of calves.

At two dollars per carcass clear on beef the official kill at five centers alone would net the plants $14,000,000 annually. The mite of twenty-five cents per carcass clear on hog carcasses killed at the seventeen official centers would net $9,000,000, and the same margin on the number of sheep killed there would net $5,000,000. The total would thus be $28,000,000 per annum. The unofficial kill by the same companies would bring it up to $30,000,000 profit. One of the biggest companies confesses to only $2,500,000 per year profit. The others are that concern's competitors. There isn't a whole lot above a living in the business just now.

In the first place the Cultivator does not believe that but two dollars a carcass is clear on the animal killed. The profit is nearer four dollars than two, as is demonstrated when the owner of a beef kills it for private use. The hide alone nets him one dollar and fifty cents, but even if these statements are true there is something wrong with a system that makes such a wide spread difference between the prices of live stock at local points and the price of dressed meat. The Farm Stock and Home puts it exactly as it is in this statement: "If the freight rates on live stock to the central packing plants and the rates on carcasses back to the local points, is the cause of the price on live stock being so low and the price of meat so high, then the plan of shipping all stock to the great abattoirs for slaughtering is a very expensive one to both producer and consumer, and should be discontinued. But it should be remembered, that these same people made some very wild statements when the oleomargarine question was before congress. One thing is certain, there was no such wide difference between live stock and dressed meat when slaughtering was done at home. At all events, things could be no worse than they are and by a system of local slaughtering the great shrinkage in live stock and the enormous sums that are now paid on freight could be saved to the people and at the same time a home industry would be built up and the money expended for slaughtering and dressing meat would remain at local points. The object in view with the stockmen who are endeavoring to locate packing houses at convenient points throughout the country, is to cut down the freight now paid on long hauls and to save to the stockmen the bill for feeding and yardage, now so excessively high.

ANOTHER PATRICIAN.

Mr. J. C. Keefe, of Orange, certainly has a secret cinch on securing and developing crack-a-jack Jersey bulls. Last year he purchased as a calf, from La Palma Stock Farm, Orange Tormentor and developed him into a type that couldn't be called anything but well earned title of "Buster." The name just grew to him. Mr. Keefe now has a yearling by Pacific Golden Lad, out of his cow Brown Bessie's Ida, that possesses one of the handsomest bodies we ever saw and over and around him is an aura of capacity that is almost luminous. Excessive width between rather heavy horns is all that debars him from being an outstanding king of his breed, At present his color is an unusual rich mahogany with a slight frosting of squirrel gray over it. Mr. Keefe certanly has some good blood.

RECENT TRANSFERS OF JERSEY CATTLE IN CALIFORNIA.

BULLS.

Pedro of Raymond 62167—R. R. Raymond to L. B. Miller, Tulare, Cal.

Brown Bessie's Aristocrat 60430—R. L. Waltz to S. E. Lawrence, Los Angeles, Cal.

Scotia Lad 66009—J. F. Robertson to J. M. Dickson, Ferndale, Cal.

Golden Oregon Thanks 66058—D. H. Looney to G. B. Reeves, Mountain View, Cal.

California's Recorder 45903—G. B. Renfro to Garth & Hardcastle, Pasadena, Cal.

King's Victor of St. L. 62904—A. B. White to H. N. Williams, Compton, Cal.

Rioter's Von Count 48834—J. Fear to J. Lansing Lane, Rincon, Cal.

Terry of Greenfield 56154—J. L. Lane to James Fear, Rincon, Cal.

Bess' Fame Silver Pedro 66756—E. P. Mosbaugh to J. C. Joplin, Santa Ana, Cal.

Golden Marquis of Oakhurst 66773—L. L. Bradbury to N. S. Southmayd, Gardena, Cal.

Marigold's Orange Tormentor 65348—J. C. Keefe to Percy Whitehead, San Diego, Cal.

Rioter's Von Count 48834—J. L. Lane to Thomas McKinley, Pomona, Cal.

Senor Ben Bolt 66894—F. M. Stanley to V. DuBois, Santa Ana, Cal.

Interested Mon Plaisir 66432—A. B. White to E. M. Wheeler, Santa Ana, Cal.

Rosy's Grey Prince 65942—E. M. Peet to J. Raitt, Santa Ana, Cal.

Sir Reuben H. 59736—B. P. Patten to J. T. Haddox, El Monte, Cal.

Dewey of Humboldt 55114—U. J. Noe to H. Everett Albee, Eureka, Cal.

Silver Lad A. 63895—H. E. Albee to U. J. Noe; U. J. Noe to Supt. Hoopa, Valley Indian School, Hoopa, Cal.

Duke of Angelus 67131—J. Nichols to Curtis & Son, Los Angeles, Cal.

Rioter Cuba Exile 66055—D. H. Looney to Mailliard Estate, San Geronimo, Cal.

COWS.

St. Lambert's Lady Jane 177425—L. P. Bailey to A. B. White, Los Angeles, Cal.

Cherubina of Marin 162925—Nanfina 163658—Sarrana of Marin 160421—Skuna 163659—The Mailliard Estate to University of California, Berkeley, Cal.

Hirabelle 154139—H. W. Sylvester to Chas. E. Torrey, Agt., Tustin, Cal.

Tormentor's Legacy 178035—A. C. Davis to T. B. Purvine, Petaluma, Cal.

Betsy's Lena 160482—Nerolene's Signal Queen 146749—C. H. Williams to F. M. Pottenger, Monrovia, Cal.

Marigold's Brown Beauty 161699—Norma's Ruby 145516—A. B. White to H. N. Williams, Compton ,Cal.

Melia's Easter Lily 175719—C. H. Williams to A. B. White, Los Angeles, Cal.

Pedro's Lowland Elsie 178570—D. G. Whiting to E. E. Moore, Compton, Cal.

Pedro's Hallie Miller 155055—D. G. Whiting to A. E. Warner, Santa Ana, Cal.

Ethel Vexer 146695—Miss Pedro Landseer 142736—Orange Blossy 111412—C. M. Williams to Geo. W. Thomas, Riverside, Cal.

Flora of Greenfield 163800—Mary of Greenfield 163797—Olive of Greenfield 163798—J. L. Lane to Thomas McKinley, Pomona, Cal.

Allie of Raymond 159602—E. M. Wheeler to Frank S. Adams, Tustin, Cal.

Daisy's Pretty Primrose 159029—Handsome Pedro's Blossom 162283—Pedro's Black Bessie 166217—Pedro's Red Rose 172166—E. M. Peet to E. M. Wheeler, Tustin, Cal.

Melia Ann's Ruie 176524—W. D. White to A. B. White, Los Angeles, Cal.

Tressie P. 164553—R. Hicks to B. P. Patten, Downey, Cal.

Daisy's Primrose W. 158196—Santos' Juanita 158185—E. M. Peet to J. Raitt, Santa Ana, Cal.

Duke's Poetess 178633—Melia Ann of Oakhurst 178634—L. L. Bradbury to N. S. Southmayd, Gardena, Cal.

Eureka Maiden 156271—Leona N. 164771—Stella N. 142892—U. J. Noe to Supt. Hoopa, Valley Indian School, Hoopa, Cal.

Victoressa Belle 168951—C. H. Williams to F. M. Pottenger, Monrovia, Cal.

Olive of Greenfield 163798—T. McKinley to C. E. Walker, Pomona, Cal.

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Pure St. Lambert Bull,
—ST. LAMBERT OF RAMONA, No. 62633,—
heads the Ramona Herd of Registered Jerseys of
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Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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A handsome golden fawn yearling son of SIGNORA BRUCE NO. 154547
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MELIA ANN'S LAD and a YOUNG TORMENTOR BULL
The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
James Houston - Duarte, Cal.

ARISTOCRATS.

It was the privilege of one of the Cultivator force recently to visit the stables of the Minnewawa Stock Farm near Fresno. It is only a few years since the sum of $10,000 was paid for the large part of this herd, so it was with no little surprise that we saw the large number of fine animals which are now at this ranch.

Much of the same blood remains as has been astonishing the Holstein world as a record breaker, and there may be expected some record breaking work by some of these cows one of these days.

The Sunset Magazine recently had an article on "The California Netherlands" in which the herd of the Messrs. Pierce at Rough and Ready Island, near Stockton, is given particular reference. Regarding the foundation of this herd the writer—A. J. Wells—says:

"The foundation of the herd was selected with much care from the leading strains of the United States, but it is worth noting that the record-breaking Juliana de Kol, today the finest Holstein in any country of the world, was born at Fresno, California, in the "Minnewawa Herd" of Miss Eshelman (now Mrs. Sherman). It is in line with the lady's successful pioneering, that California is now producing some of the best cows in the world but it has remained for Charles D. and W. F. Pierce to show what care and climate can do on a foundation of good blood. The little Juliana was but five days old when she went to the Riverside dairy, and no one can look at the happy calves there, and note the intelligent care they receive, without feeling that the care given a calf may be vastly important. Look at Juliana de Kol's phenomenal record. Think of ninety-two pounds, seven and one-half ounces of golden butter in thirty days. Over three pounds a day. Juliana is an aristocrat whose worth is not confined to claims of long descent, but her good lineage is balanced by better performance. And Juliana was but two and one-half years old when she made this record. In her prime she will be able to supply a good-sized boarding-house."

Minnewawa Juliana, the mother of Juliana de Kol is still a member of the Minnewawa Herd of Holsteins, and a recent offer of $2000 was refused for this cow. A daughter of Fidessa also remains in this herd together with other individuals from great producing dams, such as Lady Kathleen, who had a yearly record of 629 pounds of butter, and Lady Bonita with a yearly record of 599 pounds.

Minnewawa herd will bear watching for some big records which will give new California names in this advanced registry.

MILK TEST.

The Cultivator recently published an item from a breeder of Guernsey cows, in Humboldt county, which showed that on a test his cows had shown an average of 5 per cent butter fat. This is good, but the other day a Jersey breeder in San Luis Obispo showed a test of 9 per cent butter fat under stringent conditions. This was better. Now it rests with the Jersey men of Southern California to beat this record if they can. Let us have a series of tests and a memento for the cow which shows up best in the competitive test. It will cost something to get these tests but the value will come back in the price of the cows which show up well and in their offspring.

POULTRY FOR PROFIT

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

DOCTORS DIFFER.

That there has been marvelous improvement in the prolificacy of the hen during the last twenty-five years cannot be denied and the prospects are that the improvement will continue. Grandmother's methods are no longer in vogue, and scientists are called in to define the why and wherefore of all the new schemes and ways of making poultry pay.

The scientists and the poultry breeders do not always agree, but the discussions on the feeding question are usually helpful and throw much light on the subject. The scientist says a ration of 1:4:5 (which means one part protein to four and a half of carbohydrates) is the balanced ration. The poultry man says grain, green food, and animal food is the proper food. Both are right. The ration is the same. Now by the following letter you will see the discussion is how to administer this ration.

Editor Cultivator: Will you please comment through the paper on an article in the February number of Reliable Poultry Journal, page 1247. The part I am interested in is about the scratching pen. Respectfully, E. M. B.

The article in question is exceedingly interesting, but too long for insertion in the small amount of space in the Cultivator. It is an account written by H. E. Allen of a medical man in a little city in western New York. This gentleman asserted that laying hens were always fat, and that he was convinced that the only aim a hen has in this world is to be comfortable. Give her plenty to eat and a comfortable domicile, he asserts, and she is then supremely happy and ready to fulfill the only duty which she has, that of reproduction. The doctor then proceeded to experiment on these lines and divided his hens into three pens; in pen one he gave them no scratching material of any kind, but fed all the food in troughs so they could eat as rapidly and with as little work as possible; in pen two they had scratching material but the food was given in troughs. In the third the fowls were fed all their food in scratching material. The fowls were changed during three periods and each time those in pen number one outlayed the others, proving to the doctor's satisfaction the correctness of his theory.

It is difficult to comment on this without more detail; for instance, did those fowls that were in pen three have only grain, no green food and no animal food, or if these were supplied, in what form? Again, of what breed were these hens?

The Utah Experiment Station in one of their late bulletins gave their experiments along this line and proved conclusively to their satisfaction that the exercise of scratching was very beneficial if not absolutely necessary for prolific egg production. I know it induces fertility by developing and strengthening the egg producing organs. Some breeds like the Leghorns and lighter weight fowls are naturally so active that they will scratch in a dry pen or will run up and down the sides of the yard, or fly over, or manage in some way to keep constantly moving. The Americans, on the contrary, having Asiatic blood in them are less active, fatten much more quickly and require some slight inducement to keep them busy and active.

The doctor thinks that fowls in confinement are frequently under fed, and in this I entirely agree with him, but I am sure that by feeding grain in the scratching pen in the morning, green food at noon and the mash at night, one-third of the mash being green food, vegetables, cut clover or alfalfa, and giving them then all they will eat, you will have more satisfactory results with your American breeds in confinement than by any other method. For fowls that have freen range the plan of feeding in hoppers may be all right. The fowls should have grass or alfalfa range, then grain in one hopper and beef scrap in another, clean water, grit and shell. Then they will balance their own ration. It is the man, or more frequently the woman, behind the hen that makes a success or a failure of it. It is such interesting work, I cannot see how any one can make a failure of it. I look upon the hen as my personal friend, whose friendship I value and all the more so if she is making me money. My hens walk up to me in a friendly and confidential manner, jump on to the feed basket, flock round me and are glad to see me. I think they are proud of my attentions. I felt as if I had received a personal injury when I heard that some pets I had sold were kicked by their new owner. He will fail in the business before the year is out. But those who pet their fowls, feed them rationally, giving them a variety of food, for fowls like a variety as much as human beings, keep them clean and comfortable, will make a success of it, will make money, gain health and happiness, and will not fail in the chicken business. I speak from my own experience.

* * *

ANSWERS TO QUESTIONS.

Feeding Ducks.—Dear Madam: As a subscriber and interested reader of your articles, please answer the following questions regarding Indian Runner ducks:

For laying, what is the best daily feed? Will overfeeding stop their lay-

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Are still in the lead. They cannot be beaten for their egg record, style or beauty. Won 1st and 2nd on pens, 1st and 2nd on hens, 1st and 3rd on cockerels. 1st on pullet, 2nd on cock at Los Angeles show. Eggs for hatching from these prize winners, $2 and $3 per 15; also from grand pen of stock imported direct from Newton Cosh, the male being son of the Boston winner of 1903, also of the Madison Square Garden Show, 1904. $5 per 15.

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BIG WHITE EGGS
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CHICKS FOR SALE AT 15 CENTS EACH
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PHEASANT EGGS FOR HATCHING
From English Ring-Neck Pheasants, fine imported stock. 25c each or $3 per setting of 13 eggs. CHAS. L. NEWCOMBE, "LE MONA PLACE," SAN GABRIEL, CAL.

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Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
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Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
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I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to
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INDIAN RUNNER DUCKS
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WHITE PLYMOUTH ROCKS
Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.
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PURE BRED WHITE LEGHORNS
$1 00 per 13—$4.00 per 100
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Standard Bred
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Only Birds That Have
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Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

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Breeds 14 varieties of land and water fowls, including Blue Andalusians, White and Brown Leghorns, White, Buff and Barred Rocks, Black Minorcas, Silver Spangled Hamburgs, Guineas, Bronze Turkeys, Pekin Ducks, Light Brahmas, Buff Cochin Bantams, Buff Orpingtons.
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Eggs of Ideal Strain. 15 Eggs, $1.00
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Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
LOUIS S. FLETCHER, ANAHEIM, CAL.

ing? How many times a year do they moult?

What amount of feed per duck should be fed?

Do you consider them more prolific than hens?—H. L. W., Anaheim.

The best daily feed for laying ducks is equal parts of wheat bran and corn meal, twenty per cent of Quaker rolled oats or potatoes, fifteen per cent of clover or cabbage chopped fine, five per cent of grit. Feed twice a day all they will eat up clean in twenty minutes, with a lunch at noon of oats and cracked corn. Keep grit and crushed oyster shells always before them. This is James Rankin's recipe for feeding laying ducks.

Ducks usually moult about three times a year.

Over-feeding, leaving the food before them, will prevent Indian Runners from laying. Feed them in a trough, as soon as they have eaten they will go off and lie down, then take away the food that may be left, rinse out the trough and set it on one side.

They are more prolific than hens.

* * *

Preserving Eggs—Information is requested about the recipe for preserving eggs with liquid glass. Where can I purchase it?—E. G. F.

Liquid glass, or sodium silicate, can be purchased at any good drug store. I purchased mine at the Owl Drug Store in Los Angeles. It cost 75 cents a gallon last year, but I hear it has advanced to $1.25 a gallon this spring. The recipe I have tried was six parts boiled water to one part of liquid glass. The eggs must be fresh and clean. They should be placed in a glazed jar or in a wooden keg and the liquid glass must cover them. A saucer or board with a weight on it can be used to prevent their floating, just as we use a weight to keep pickles under the brine.

Potatoes—C. E. B. asks what are potatoes worth to feed poultry and pigs with grain at one and a half cents per pound?

No one can answer this question without making a personal test, which I have not done.

SOME POULTRY QUESTIONS.

Editor California Cultivator: Having had several inquiries recently from members of the Cultivator family, asking me to answer through the columns of this paper as to whether my Pekin duck eggs are fertile and can I guarantee them to be such, will say that the following letter speaks for itself:

James Hague, Oakland, Cal.:

Dear Sir: I have just received word from Mr. John M. Sontag, of St. Charles, Ill., the party to whom you shipped 100 Pekin duck egg. I quote him as follows: "From the 100 California Pekin duck eggs that I received from the Oakland, Cal., Fair Oaks Duck Farm, I got 88 fine ducklings. Say, is not this a record, after traveling 3000 miles, not an egg broken, and to have 88 hatch from 100 eggs shipped? They are from the one you recommended to me.—F. S. Low & Co., Petaluma, Cal."

These eggs were shipped by Wells Fargo Express Co., February 5th, 1904. When eggs arrived at St. Charles, Ill., it was 20 degrees below zero.

* * *

Indian Runners.—J. W. F., Fresno, Cal: In reply to your inquiry, will say the Indian Runner duck was imported from India a number of years ago by a sea captain. Some years later he imported more to England. According to W. Weir, the first lot of these ducks (Canadian Runners) known in England, came to Warkington about 1874. A. Mr. Little, of Wraeff, Carlisle, claims the honor of giving them the name Indian Runner. The English breeders claim 225 eggs per duck each year, 198 eggs was the average for me last year. The Indian Runners are easy keepers.

* * *

In mating up the flock one drake to eight ducks will be found to be most satisfactory. The Runners are particularly adapted to the market poultryman's needs, as their wonderful laying qualities insure a constant supply of eggs. After two years breeding them, my experience is that they truly deserve the name of being the Leghorn of the duck family. They consume one-third less food than the Pekins. They are a very fine table duck, having a very heavy breast, similar to chicken, and for beauty can not be surpassed. The standard of perfection calls for fawn and white, though you will find them black and white, blue, brown and white, brown with blue wing bars. These are the sham Indian Runners, having been bred and raised in Holland and Germany for over 200 years. An Indian Runner should be half up to the Penguin in carriage.—James Hague, Oakland, Cal.

J. B., Sonoma, Cal.: Pekins are upright, half up to the carriage of true Indian Runners. The low birds are off in shape. Plumage should be creamy white. Aylesburys should be pure white.—James Hague.

EGG-EATING HENS CURED.

May Huffman in "American Poultry Journal" tells how she cured her hens of egg eating. She says: "Never kill a bird for this habit. The cure I give is sure every time. A few years ago my birds took to eating eggs, so badly that four or five hens would stand around the nest containing a laying hen waiting until she would leave the nest. I tried every remedy suggested, but still they ate the eggs. Finally I sharpened my knife and went out to the coop. I first selected my egg eaters. This I did by placing an egg on the floor, and as fast as they made for the egg I caught and placed them in a coop to themselves. When the eggs remained unmolested on floor I knew that I had got all of the egg eaters. I then took them one by one and trimmed off the end of their upper beak until it showed signs of bleeding and put them back in their accustomed run. Next day I got fourteen eggs as against none for several weeks before. They would try to break the eggs as before, but their beaks being so sore could not, and so decided they did not like eggs. In a week or two their beaks had grown out, and they seemed to have forgotten their bad habits, never resorting back to it."

POINTERS FOR POULTRY YARD.

Look on top, not under the wings of the little turkeys for lice.

But look under and not on top for the little bunches of red mites. A little daub of grease any kind, will settle both varieties.

Mother the weaned chicks yourself. They need extra care when the hen mother leaves them. Get them to the hen house and on the roosts as soon as possible.

Clean, clean, clean, brood coops, hen coops, hen houses, hen shed and hen yards.

If you have no compost heap, cart the stuff away in some remote corner; spread it out and let the elements disinfest it. Chloride of lime is a good disinfectant, and it has no smell like carbolic acid and other disinfectants.

INDIAN RUNNER DUCKS,

DUCKLINGS AND EGGS FOR SALE FROM CHOICEST STRAINS, MATED BY AN EXPERT.

W. K. Stewart **Covina, Cal.**

Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

James Hague, Proprietor

350 College St., Oakland, Cal.

HEAVY LAYING STRAINS

Business White Wyandottes and Brown Leghorns, best to lay eggs. Eggs, $1.50 for 15. Write for useful circular.

HEMET POULTRY YARDS HEMET, CAL.

EGGS FOR SALE

From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.

H. S. THOMPSON, 125 W. Ave. 54, Los Angeles

Emery's Pure Meat Meal

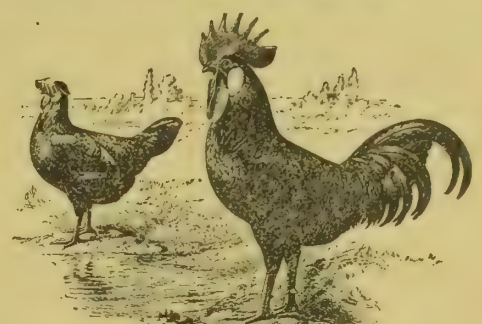
Ask your nearest dealer for them and take no imitations.

Don't believe all we say, but jus enough to buy our Poultry Foods

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks



Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

SEND FOR NEW ILLUSTRATED CIRCULAR GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 6435 **Los Angeles, Cal.**

RANCH: 2½ Miles South of the University Station, on Vermont Ave. Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena All Stock is Kept at Ranch Phone: Sunset, State 82

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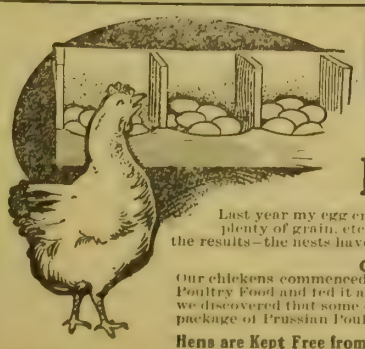
The Jubilee illustrates the highest type in Incubator construction; hot-water pipe system; heavy copper boilers; perfect ventilation; new and positive system for control of moisture; entirely self-regulating—in all points the Jubilee leads. We have brooders to match the incubators—perfect and practical.

Send for Jubilee catalogue No. 30. It will explain all you want to know.

JUBILEE INCUBATOR CO. OAKLAND, CAL.



NESTS FULL OF EGGS

no Cholera, Roup, or Sick, Droopy Hens, but Healthy, Laying ones instead, is the paying result of using

Prussian Poultry Food

Last year my egg crop was a failure, though I have some good bloods and gave them plenty of grain, etc. I began feeding Prussian Poultry Food and I never imagined the results—the nests have been full of eggs every day.—G. W. Arbogast, Fischers Grove, Ia.

CURED CHOLERA AND ROUP.

Our chickens commenced dying with cholera. We purchased one package of Prussian Poultry Food and fed it according to directions and saved our flock. A few weeks ago we discovered that some of our chickens were afflicted with roup. We purchased another package of Prussian Poultry Food and stopped the disease.—D. D. Avery, Concord, Minn.

Hens are Kept Free from Lice by use of *Prussian Lice Powder.*

Prussian Poultry Food is sold in Pkgs., 25 and 50c; Pails, $3.50. A Poultry Book Free.

Prepared only by PRUSSIAN STOCK FOOD AND REMEDY CO., St. Paul, Minn.

Germain Seed Co., Pacific Coast Agents, Los Angeles

Preserving Eggs . . .

A most valuable bulletin has been issued by E. F. Ladd, of the Dakota Experiment Station, on the preservation of eggs, which is deserving of careful reading by all poultrymen and women. The subject discussed has been treated, of course, from time to time in the Cultivator, but the test made with water glass as an egg preservative has not been so thoroughly discussed as in the following bulletin, from which liberal extracts are given. The bulletin is endorsed by the Agricultural College of North Dakota.

At the present time eggs are largely packed in lime, salt and other products, or are put in cold storage for winter use, but such eggs are very far from being perfect when they come upon the markets, and frequently more than one-half of them are unfit for use. A method to be generally employed must be simple, cheap and the eggs, when wanted for use, must be of good quality.

There was need for a simple method of preserving eggs, one which would enable the farmers or the consumers to put away their eggs during the summer months when they are plentiful and command but a small price, to be used in times of scarcity when the price of eggs rules exceptionally high. For this reason six years ago we were led to make experiments in preserving eggs by various means. Of the methods tested, waterglass was the most promising and our experiments continued through several seasons with most satisfactory results.

The shell of an egg has a very thin coating of mucilagenous albuminous matter upon its surface that seems to protect the eggs for a considerable time from atmosphere action of the introduction of the germs of decomposition. If this coating be removed immediately after the egg is deposited, while still warm, the keeping quality seems to be much reduced, or if the eggs that become soiled in the nest are washed, this albuminous coating is softened and the life of the egg shortened thereby.

It is believed that in waterglass we have a preservative which will, when used for preserving eggs, give better satisfaction than any other method available for those who desire to keep eggs for any great length of time.

Eggs put down by this method have been kept for from three to nine months and the eggs have come out in better condition than by any other method tested. When strictly fresh eggs only, have been put down, at the end of six months they have invariably come out in better shape than the average market eggs supposed to be fresh.

This method has been tested, in a commercial way, in nearly every State and part of our country and we have not had to exceed eight adverse reports. One party in Maine reports that during the summer of 1903 he put down, by this method, 6000 dozen of fresh eggs, and, in the following December and January, he was selling these eggs, receiving the highest prices paid for strictly fresh eggs and was frequently told that they were the best to be had. We might quote from such trials made, during the past three years by parties in North Dakota, California, Carolina, New York, etc., but the general tenor of all are about the same.

After experiments made with solutions of various strengths, and under varying conditions, we found that an 8 to a 10 per cent solution of waterglass would preserve eggs very effectually, so that at the end of eight months eggs that were preserved the first part of the summer appear to be perfectly fresh. In most packed eggs, after a little time, the yolk settles to one side, and the egg is then inferior in quality. In boiling eggs preserved for eight months in waterglass the yolk retained its normal position in the egg, and in taste they were not to be distinguished from fresh, unpacked store eggs. Again, most packed eggs will not beat up well for cake-making or for frosting, while eggs from a solution in waterglass seemed quite equal to the average fresh store eggs of the market. It should be borne in mind that in these experiments only fresh eggs were used for preserving; no egg was more than four days old. Eggs that have already become stale cannot be successfully preserved by this or any other known method so as to come out fresh.

* * *

WHAT IS WATERGLASS.

Water glass (Sodium Silicate) is a very cheap product that can usually be procured at not to exceed 50 cents per gallon, and one gallon will make enough solution to preserve fifty dozen of eggs, so that the cost of material for this method would only be about 1 cent per dozen. Water glass is sodium and potassium silicate, sodium silicate being usually the cheaper.

* * *

NECESSARY PRECAUTIONS.

1. The eggs to be put down by this method must be fresh and not stale store eggs. A few stale eggs will soon injure the entire lot. One party reports that he put down two lots of eggs, fifty gallon jars in each case; one lot strictly fresh eggs, the other contained some stale store stock, and the first was a complete success while the second lot came out about like the ordinary packed eggs, some fair, some spoiled.

2. A good grade of water glass must be used. Some of the cheap water glass contains so much of free uncombined alkali that the eggs preserved in such solutions become watery and acquire a bad flavor. I prefer water glass in the form of heavy white jelly which flows like heavy cold molasses. Of this grade of water glass somewhat less is needed than when the thinner product is employed. The dry powder water glass has not as a general rule dissolved fully in hot water, and for that reason has not proven as satisfactory as the first named product.

3. Galvanized iron vessels, crocks, jars, etc., may be used in which to preserve the eggs. Wooden kegs of good quality are satisfactory, but these must be thoroughly sweetened by scalding with boiling water. There have been a few complaints that barrels have not been entirely satisfactory as the water glass dissolved some products which deposited on the eggs. I am inclined to think this may have been due to the presence of glue used

$5.00 PER 100
BARRED ROCK EGGS
Choice mating, $1.50 per 13
BUFF LEGHORN EGGS
$1.50 per 13. Prize winning stock
LINDGREN & SONS KINGSBURG, CAL.

THE NATURAL HEN INCUBATORS AND BROODERS
Points of Merit That Are Causing Such Large Sales of These Machines All Over the U. S.:

A continual circulation of pure, fresh, warmed, moist air in every part. Chicks can regulate their own wants as to heat and air by having a range of from 60 to 100 degrees to go into. Chicks will not crowd, as they have warm material to place their backs against similar to the old mother hen. No chilling or overheating. Lamp fumes or gasses entirely separated from chicks and fresh air. Brooder can be heated up in fifteen minutes in any season. The most economical on oil of anything in the shape of a brooder. One filling of lamp—3 quarts of oil—will last from five to seven days in mild weather. The incubator is guaranteed to hatch chicks as strong as the hen can. The only brooder that has and is capable of raising 100 per cent, not only once, but time after time. Our catalogue and book combined will explain more of the merits that have made these machines famous. Send for it. Mailed on receipt of 10 cents in stamps. It has helped thousands to success that have previously failed with other makes.

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PETALUMA CALIFORNIA

Barred Plymouth Rock Eggs for Hatching
1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15
MRS. Z. A. WOLLAM,
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BARRED PLYMOUTH ROCKS
THOMPSON'S RINGLET STRAIN
Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10 00 per hundred.
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Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
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Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00 Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
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EGGS FOR HATCHING
From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
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SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904
There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
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Largest Poultry Supply House in the United States
YOU DON'T NEED TO
Stay Up at Night
In order to have successful hatches when using the
IMPROVED
LOS ANGELES
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Self Regulating Non Moisture
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FREE—1904 Catalogue—Free
Darling's Genuine Beef Scraps
HENRY ALBERS - 315 South Main Street Los Angeles, Cal.

There May be Other Chick Feeds, but People Do Not Want Them
I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.
The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.
Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.
GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

as sizing for the barrel. When the barrels have such a coating it might be well to char the inside of the barrel by placing in it a few shavings saturated with kerosene oil and then throwing in a lighted taper and allowing the sides of the barrel to become charred. This barrel well burned and then thoroughly washed should be free from any glue like products.

* * *

DIRECTIONS.

For those who may desire to test the method I give the following directions:

Use pure water that has been thoroughly boiled and then cooled. To each ten quarts of water add one quart or slightly less of water glass. When the heavy jelly-like solution is used, three-fourths quart of water glass will be ample.

The solution may be prepared in the jar and fresh eggs added from time to time until the jar is filled, but, be sure that there is fully two inches of water glass solution to cover the eggs.

Keep the eggs in a cool, dark place and well covered to prevent evaporation. A cool cellar is a good place in which to keep the eggs.

If the eggs are kept in too warm a place the silicate is deposited and the eggs are not properly protected. Do not wash the eggs before packing, for by so doing, you injure their keeping quality, probably by dissolving the mucilagenous coating on the outside of the shell.

For packing use only perfectly fresh eggs, for stale eggs will not be saved and may prove harmful to the others.

All packed eggs contain a little gas and in boiling such eggs they will crack. This may be prevented by making a pin-hole in the blunt end of the egg. To do this hold the egg in the hand, place the point of a pin against the shell of the egg at the blunt end and give the pin a quick, sharp blow, just enough to drive the pin through the shell without injury to the egg.—Agricultural College, N. D.

WORK TO WIN.

A good many people say, "I am going into the poultry business because it does not require much work. The natural result is they fail to succeed and then blame the business. The truth is the successful poultry raiser must work about all the time. The day he lets up is the beginning of his undoing.

Women generally succeed best in the poultry business, if they like it, and they generally do, because they hustle more than men. They are more painstaking, and look more carefully after the little things which make big ones in the end. We want to emphasize the suggestion made by a woman writing in the Farmers' Record, who says:

"No person can make a success of the poultry business who is lazy. He is no more good for a place of this kind than a lazy hen would be for laying eggs. The lazy hen is no good only to grace the inside of a roasting pan or to embellish a good dish of dumplings. We sometimes note that farmers will turn over the chicken business to their wives. It is also worthy of note that the lazy woman never has any "luck" with chickens. If she has it is usually "bad luck." The woman who can work and is not afraid to give the hens all the attention they need will almost always succeed. A woman of this kind seldom fails in an undertaking of this kind."

It has been said by some farmers that a few town people keep poultry for pleasure and they would not do this if they were not industrious. Here is room for argument. We have all kinds of people in this world and the industrious people do not all engage in the same kind of work. The farmer is a hard working man as a rule, and the man at the desk is working, perhaps, just as hard and puts in a great deal more time than some farmers. There are plenty of men engaged in trade and business who are far from being lazy. Because they are active is one reason why they want a pen of chickens to work at while they are out of the office, or away from business.

Most certainly no one can make up a pen of good fowls and sit down on a box or in an easy chair and see the business succeed and the dollars come in at a rapid rate. Not at all. The stock must be fed well and at regular intervals. They must be provided with fresh water often. Their quarters will have to be kept clean and they will have to be watched closely for disease and vermin. The hen does not know enough to manage herself all the time. Under favorable circumstances she will do fairly well with little or no attention, but as a rule she will need looking after. When hatching time comes there is a double portion of work on hand and the demands on a person's time are far more insistent. All will be planning, studying and arranging to get the best results from the natural instincts of the hen or looking after incubators and brooders. From early spring until the broilers are ready for the broiling pan it will be necessary to give attention to the poultry. As the warm days come the danger of lice and mites will increase and if one is indolent, careless or lazy these will accumulate with wonderful rapidity and do great damage before one is aware of their presence.

FRESH EGGS.

Eggs layed by hens which have not been allowed with the male will keep a great deal better than those from mated females. In warm weather especially, fertile eggs spoil very rapidly, while an infertile egg will preserve its freshness for a considerable length of time.

The demand for strictly fresh eggs is growing, and the more eggs of that quality placed on the market the greater will be the demand. There is no place where care in marketing a product is of much more importance than in selling eggs for table purposes, and few places in which it pays better to be particular. Some people seem to think that the profit in a business depends on the quantity produced and disposed of, but it is nearly always true that those who are careful to produce an article of first quality and place it on the market in the best condition, realize the greatest profit from their labor.—The Farmer.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

After many weeks' delay we have a copy of this new book on our desk, and have sent many copies out to subscribers. We believe every poultry raiser (whether new or old timer at the business) in California can obtain many times the cost of the book in practical hints. The book contains the experiences of five years' work in the poultry yard, contending with conditions as they obtain in California.

The price of the book is $1.25 postpaid. It is cloth bound, profusely illustrated, and contains abont 125 pages. We would like next week to send at least 100 copies to Cultivator poultry raisers. Send us your orders.

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NOW IS THE TIME TO HATCH
FIRST-CLASS EGGS FOR SETTING, $1.50 FOR 13
S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS
Eleanore Poultry Ranch
M. E. BROWN, Prop. 1½ Miles East of Glendale. P. O. Address, Garvanza
ALL STOCK BRED FOR SIZE AND EGG PRODUCTION ONLY

White Plymouth Rocks

If you are after first-class White Rock eggs, you ought to see my stock before buying. If they don't suit, don't buy. Send for a circular if you cannot call. Closed Sundays

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Darling's High Protein
BEEF SCRAPS
Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.

Farmers and Stockmen
All Use
Prussian Stock Food
We Carry a Full and Complete Line
GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

WHY SITTING HENS LEAVE THE NESTS

In nearly all cases it is because they are so pestered with lice. Of course the hen does not know that the eggs may have cost you $5 a setting—she leaves just the same. **Prussian Lice Powder** dusted freely on the nest and eggs once each ten days does the business. Does not injure the eggs, and the little chicks will be free from lice when they come out. Should you like the liquid better, don't forget our **Prussian Lice Killer.**

"I have used Prussian Lice Killer for chickens and also for horses, and same has given entire satisfaction.—RIMOND LENTZ, Jericho, Wis.

Price 25 and 50 cents per can. Remember also our famous **Prussian Poultry Food.** If your dealer does not keep any of these, write us. We will supply you and send you our **68 page book free.**

PRUSSIAN STOCK FOOD & REMEDY COMPANY, St. Paul, Minn.

Germain Seed Co., Pacific Coast Agents, Los Angeles, Cal.

Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.

Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

GOOD THINGS FOR POULTRY

Armour's Beef Meal, made from Cooked Beef Hearts and Livers seems almost too good for Poultry.

Price, $3.50 per hundred pound sack.

Only one place in the world where they accumulate so many hearts and livers that they use them for making beef meal for poultry.

At this place, the largest packing house in the world, they slaughter thousands of cattle, sheep and hogs, and this is how they accumulate so many hearts and livers.

These hearts and livers are baked to a crisp, then they are ground into a fine meal. The quantity is limited and two carloads a month is all that can be had of this, and we will use the most of it in preparing Coulson's Egg Food and Coulson's Chick Food.

Armour & Co. guarantee this meat meal to contain 65 per cent protein. One pound is equal to nearly 4 pounds of raw meat, as raw meat contains over 80 per cent moisture, and in making this meat meal the moisture is baked out, and it takes about three pounds of meat to make one pound of meat meal.

This meat meal is the very choicest that could be obtained anywhere, and it is prepared especially for the A. R. Coulson Co. It is made of hearts, livers, kidneys, etc., which are baked to a crisp and then ground into meal. The Armour Packing Co. accumulates 4,000 to 5,000 pounds a day of this material, and they thus accumulate 400 sacks or 40,000 pounds about every three weeks, and it is then shipped in the Armour Co. cars, freight prepaid, to A. R. Coulson Co., Petaluma, Calif., who use it in preparing Coulson's Balanced Rations for poultry.

ARMOUR'S PURE BLOOD MEAL.

Everybody knows that Blood contains all the elements necessary for flesh and egg production. It is a valuable aid to the growth of anything of the animal nature.

Hence it is not strange that blood that is immediately cooked and submitted to processes that make it odorless, should be valuable to us in poultry food. There is a vast difference in blood meal. Most of the blood meal on the market is not fit for anything except for fertilizer.

We get Blood Meal from Armour Packing Company in the East in order to get the very best. A carload is on the way now. This is one of the articles we use in preparing Coulson's Poultry Foods. If you wish some of this good blood meal, we will be pleased to supply you.

Price, small quantities, 5c per pound; 100 lb. bag, $4.25. This blood meal contains over 80 per cent protein; one pound being equal to five pounds of raw meat.

Loading another car of fresh meat meal (400 sacks) for A. R. Coulson Co., Petaluma, Cal.

Price of Meat Meal, $3.50 a 100-pound sack. Price of Armour's pure dried blood, $4.25 a sack.

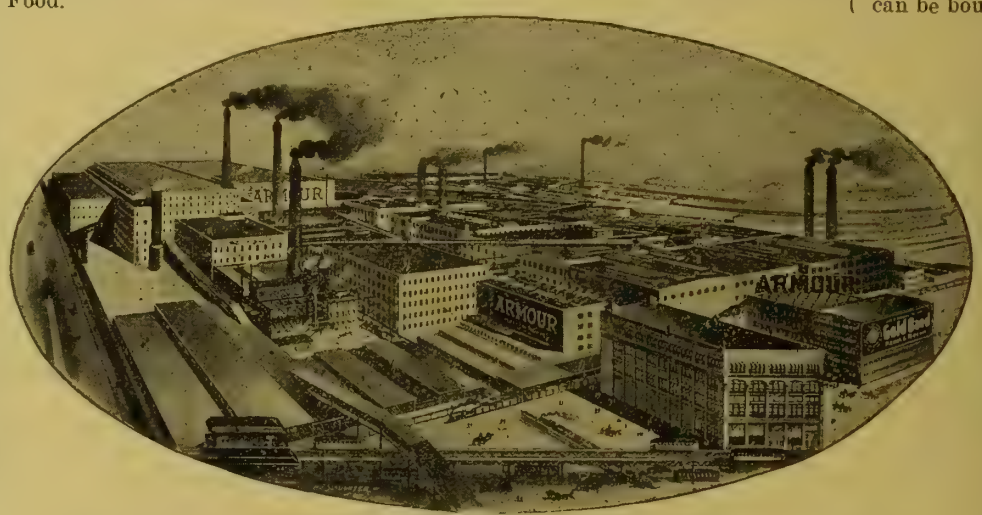
A. R. Coulson Co., Distributing Agents for California.

There is over 400 pounds of animal foods in every ton of Coulson's Egg Food.

ONE REASON WHY COULSON'S Egg Food and Coulson's Chick Food is much more valuable and a more profitable feed is because it is more than one-fifth pure animal foods.

Every ton of Coulson's Egg Food contains about 300 lbs. of Armour's Heart and Liver Meal and Dried Blood Meal, which alone would be worth at retail about $11 or over.

When we say 300 pounds to the ton, we mean to about 15000 pounds of feed we add 300 pounds of dried blood and meat meal and 50 pounds of other material like animal charcoal, Flax Seed Meal, Condition Powders, etc. So that if common feed was worth $25 per ton, Coulson's Egg Food would be worth $40 per ton or more for feeding value. Coulson's Egg Food, however, can be bought for less than $40 per ton.



PLANT OF ARMOUR PACKING COMPANY, KANSAS CITY.

This is one of the establishments that furnishes the A. R. Coulson Co. with hearts and liver meat meal, also pure dried blood meal. A carload of 40,000 pounds, 20 tons, is shipped about every three weeks to the A. R. Coulson Co., Petaluma, where it is used in making Coulson's Egg Food and Coulson's Chick Food for poultry.

Coulson's Egg Food is

Couson's Egg Food is the best of all, as it contains everything complete to enable hens to lay eggs in abundance.

When you feed Coulson's Egg Food you do not have to buy any other things, because everything is already mixed in this food. Beef meal, blood meal, fresh ground bone meal, charred bone charcoal, flax seed meal, willow charcoal, middlings, pea meal and other meals and all things needed to make the richest and best egg producing food. We buy all these things in wholesale quantities at the very lowest cash prices. It is then thoroughly mixed by machinery in the right proportions by those who know how and you only have one profit to pay. The poultry man that buys an article separately has to pay a profit on every single article he buys and consequently it costs him more money to mix a ration with only one or two articles than it would to buy Coulson's Egg Food with everything complete.

Besides, the man who buys in small quantities has to take what he can find at the local stores and pay a big price for inferior articles, while we go thousands of miles in order to get the right kind of material. We do not use fertilizer stocks. Any poultryman is at liberty at any time to inspect the material that we use in manufacturing Coulson's Poultry Foods. We are always pleased to show any parties through our factory as we are proud of the fact that we have the very best food articles obtainable.

Price of Coulson's Egg Food at Petaluma, $34 a ton. Price of Coulson's Chick Food is $2.20 per sack at Petaluma. The price in other towns will be a little more, according to freight. You owe it to yourself and poultry to feed them Coulson's Poultry Foods.

At Armour Packing Co., Kansas City.

Loading car of 400 sacks of Armour's Meat and Blood Meal for A. R. Coulson Co. The meat meal is made from hearts and livers and lungs only, baked to a crisp and ground fine. A car of 40,000 pounds is accumulated every 3 weeks and is shipped, freight prepaid, to A. R. Coulson Co., Petaluma, Cal., as this firm has a contract to take the entire product of the meat meal and it is used in preparing Coulson's Poultry Foods.

Ask your dealer for it.

THE A. R. COULSON CO.

PETALUMA - CALIFORNIA

Factories: 1st and E Sts., also 772-774 Main St.

General Agriculture

COW PEAS FOR HAY.

Where the cow pea is intended to be made into hay, it will be found advantageous both to the growing crop and to the curing of it afterward, if Kaffir corn is sown with it, says a writer in "The Farmer." This being a short, stiff grower seems to hold the peas off the ground, and to hold the mass of vines somewhat apart for the admission of air during curing.

Seed may be sown either broadcast at the rate of about a bushel per acre, or in drills from 20 to 30 inches apart, with about three pecks of seed per acre. The latter method of planting presents the advantage of allowing of the cultivation of the young plants. When sown in rows they are more easily harvested than when broadcast, especially if the varieties of extensive vining habits are used.

The peas should be cut for hay when the first pods begin to ripen, or when the lower leaves are falling. It is desirable in the cutting and curing both to save as many of the leaves as possible. My method of cutting has been with a mowing machine after dew is off. As soon as the cut vines are well wilted, but before the leaves get too dry, the tedder is started. This is usually done about noon. If the growth is very heavy, a second teddering a couple of hours later is advisable. Before evening the vines are raked into windrows and made into medium cocks the next forenoon. The third day they can be hauled to barn or stack, but must be absolutely free from rain or dew moisture. The base of the cocks will often be found to contain more moisture than is desirable to have go to the mow, and to obviate which, I have found it an excellent plan, while a wagon is at the barn unloading, to upset enough cocks for the next load, exposing the bottoms to the sun and air.

This degree of curing, if care is taken to have an entire obsence of extraneous moisture, will make good hay if put into the barn without too much tramping or allowing large piles to accumulate where the hay drops from the hay fork. True, the hay will heat and get pretty warm, but the proper thing at this time is to close up the barn and keep away from the hay till it cools off. An excellent way to increase the bulk of hay and to insure the better keeping of the cow pea hay—if there is any fear of this method not being a success—is to put in the mow a layer of hay, then a layer of cut corn stover (if any has been left from the last year) or a layer of clean wheat straw or early-cut rye hay or straw, alternating the straw and peas. The straw when feeding out will be found to have partaken of the flavor of the peas and will be readily eaten. In feeding cow pea hay it is almost a necessity to use a hay knife to cut the block down in sections. Where this is done the straw is mixed with the hay and should be fed so.

A Southern method of curing cow peas is to do it on poles, racks and the like, but the work involved in such a method would prohibit the making of this valuable hay in the North. Indeed, I would advise any one not familiar with the habits of the crop to enter on the growing of it experimentally, for very often an extra big dose at the start creates a lasting distaste for a very valuable crop that is capable of doing great good to the farm.

IRRIGATION JUBILEE A MODESTO.

The irrigation jubilee at Modesto on April 22 and 23, says the Tulare Register, will mark an epoch in the history of California. It will signalize the completion and successful operation of the greatest irrigation system in America, one of the greatest in the world, planned, constructed, owned and managed by the owners of the 260,000 acres of land traversed by the canals—by the people, organized for the purpose into two municipal corporations known as the Modesto and Turlock Irrigation Districts. The objections of big landowners resulted in litigation that delayed the work for several years, but finally all obstacles were overcome, the people united in the enterprise and carried it to successful conclusion. Thirty thousand acres have already been withdrawn from grain cultivation and devoted to alfalfa, vines, Calimyrna figs, oranges, almonds, peaches, sweet potatoes and other products for which irrigation is necessary, and the results to date have more than gratified the most sanguine expectations.

The cost of this great enterprise was $2,500,000, representing a bonded indebtedness of less than $10 per acre on the land, of which only the interest, at 5 per cent, is payable during the next twenty years. Enhanced values and business already represent double the investment.

A great concrete dam thirty miles higher up on the Tuolumne river, constructed ten years ago at a cost of $550,000, raises the water to a level from which it is taken on either side by the main canals of the districts. One of these is 74 and the other 64 feet in width on the bottom and they are designed to carry volumes of water eight and six feet in depth respectively. These main canals are each 22 miles in length and supply 200 miles of laterals ranging from 40 down to 20 feet in width.

The great ditch now being completed in the eastern part of San Joaquin county, will, when completed, be used to convey water from the large canal of the Stanislaus and San Joaquin Water Company. The new system will cover a large acreage and is built especially for the many colonists who have just purchased land in the vicinity of Clyde, a station on the Oakdale branch of the Southern Pacific railroad. The majority of the new comers insist on having an abundance of water, as they know it will assure them good crops each year.

EARLY CUT HAY THE BEST.

A practical farmer writing in Farmers' Sentinel concerning the cutting and curing of hay, says:

"Late cut hay spends better than early cut hay" was once quite a popular adage among farmers. They meant by this that stock would eat less of the late cut hay than of the early cut, and make out to pull through the winter. Nowadays the thoughtful farmer is anxious to have his stock eat all the feed they can digest and assimilate, for he knows his profits come from the food consumed over and above the amount required for maintenance.

With this view of the case he seeks to have his hay and roughage of all kinds as well as the grain he feeds his stock of the best possible feeding value, and their feeding value depends upon composition and digestibility.

In harvesting hay, therefore, these factors as well as the yield must be taken into account when reckoning upon the time to cut the crop. There is a very prevalent opinion that the longer grass is permitted to stand before harvesting the greater will be the yield, and that this increased yield will compensate, in a large degree, for the decreased rate of digestibility. Sometimes when we get at the facts in a given case our ideas change very materially. It may be they will in regard to the yield and value of late and early cut hay.

LAKEVIEW VALLEY.

Lakeview is a pretty little valley opening out southerly from the main San Jacinto valley. Mr. Clay H. White is here preparing 100 acres to be sown to alfalfa. Moreno, about six miles west of Lakeview and eighteen miles westerly from San Jacinto, is also a spur of the main valley. In a section of this valley, Cottonwood, I saw several fine orange groves, the fruits of which, in flavor and size, will compare favorably with any in the State. D. S. Hayward has a large and well kept orange orchard in this section. He shipped his fruit early this season as an independent grower and receive good prices. The soil in both of these valleys is composed largely of decomposed granite and, with sufficient water, will produce heavy crops.

Four days on the road from San Jacinto to Elsinore, stopping over night with the farmer and dairyman ought to give one a very correct estimate of the country and its people. The valleys through which one passes, consists principally of low, rolling hills, with stretches of thousands of acres of level valley land. Everywhere from the peaks of the hills bursts the ancient granite, chiselled by the storms into many fantastic shapes, sometimes resembling tombstones. Everywhere the process of disintegration is converting these granite boulders into soil that awaits only the conservation of the water that annually runs to waste from San Jacinto mountain to make all these charming valleys an earthly paradise, rich in every product adapted to such a climate and supporting a dense population. With plenty of water for 40 acres of such land a man would be richer than the one who now owns a whole section and gets a fine crop of grain once in four or five years. Last year this section had 20 inches rainfall, and a man with four horses cultivated ground sufficient to net him $5000—in grain. This year many thousands of acres are sown, but unless they get more rain soon not even hay will be raised anywhere over this vast area. The climate at this altitude is simply exhilarating. Here among these granite peaks, in these charming valleys, the air is so life-giving that to breathe is a luxury. It is nature's great sanatarium for her weak-lunged children.

Mr. H. H. Lindenberger, of Ethanac, has fifty acres of olives. Many of his trees are quite young. He has a fine herd of Jersey and Holstein cows, also some fine Berkshire pigs. His Berkshire boar is a monarch in his way. Master Harold Lindenberger, the four-year-old son, is a prodigy. If you don't believe it, you try to interview him, as I did. "What's your name?" "Where did you come from?" "Where are you going?" "What's your business?" are only a few of the questions that this born interviewer fired at me so fast that his words seemed to telescope each other. I would suggest that the Cultivator office keep an eye on Master Harold. If, later on, you can get him as an agent for your paper, he will have a man's name and money before he has time to get his "second wind."

* * *

CONCERNING PIGS.

The man who says a hog must have a wallow is guilty of libel. Put him—the hog—inside a 10x10 enclosure containing a mud puddle on a hot day, with no shelter overhead and he goes to the puddle to cool off. See Mr. Pig, as I have in these valleys, in fresh alfalfa fields, sparkling with dew drops, and there is no cleaner or happier animal. His tail has an artistic curl, his fur a shimmer, and his nose an aristocratic toss that mark him as superior to the prisoner of the pen.

* * *

The Smohl Brothers and Mr. Geringer, of Murietta, have 100 acres in 8-year-old olive trees. They have a press and have extracted about 1100 gallons of oil from about 50 tons of olives. The Auld Bros., of Auld, have a very fertile little valley, moist enough to produce alfalfa. They were putting in a pumping plant to irrigate their corn and alfalfa. Mr. Messerall, of Perris, and N. L. Slosson, also of Perris, are sinking wels, and will put in pumping plants. A few pumping plants in successful operation, making crops in these dry valleys, in the dry years, will furnish valuable and much-needed object lessons.—Oliver.

Tulare County Sheep. Courtesy Sunset

THERE IS NO DEATH.

There is no death! The stars go down
To rise upon some fairer shore;
And bright in heaven's jewelled crown
They shine forever more.

There is no death! The dust we tread
Shall change beneath the summer showers
To golden grain or mellow fruit,
Or rainbow-tinted flowers.

The granite rocks disorganize
To feed the hungry moss they bear,
The leaves dring daily life
From out the viewless air.

There is no death! The leaves may fall,
The flowers may fade and pass away;
They only wait through wintry hours
The coming of the May.

There is no death! An angel form
Walks o'er the earth with silent tread;
He bears our best loved things away;
And then we call them "dead."

He leaves our heart all desolate;
He plucks our fairest, sweetest flowers;
Transported into bliss, they now
Adorn immortal bowers.

The bird-like voice, whose joyous note
Make glad these scenes of sin and strife,
Sings now an everlasting song
Amid the tree of life.

And where he sees a smile too bright
Or heart too pure for taint and vice,
He bears it to that world of light,
To dwell in Paradise;

Born unto that undying life,
They leave us but to come again;
With joy we welcome them—the same,
Except in sin and pain.

And ever near us, though unseen,
The dear immortal spirits tread;
For all the boundless universe
Is life—there are no dead.

—Author unknown.

Short Stories.

When Hetty Green was brought to court on complaint of not having a license for her dog Dewey, she said:

"I've got a New York license for the dog. Ain't that enough?"

"No; you must have a Jersey license."

"Must I? Well, it's mighty extravagant; but a dog's worth mor'n a lawyer, anyhow; barks louder for you and don't cost near so much.

* * *

Sir Edward Clarke, the noted English barrister, tells with glee how a young lawyer scored off him. Late one afternoon a case in which Sir Edward was interested was called, whereupon he asked that it might be put off until the following morning, as he had been arguing a case in another court all day and was much exhausted. The request was granted and the next case called. The young lawyer then asked for postponement of this case, also saying he, too, was exhausted. The court asked what he had been doing. "It it please the court," was the reply, "I have been listening to Sir Edward Clarke."

* * *

Clyde Fitch, the playwright, has a scrapbook of odd newspaper clippings that he has been over fifteen years collecting. One of his clippings Mr. Fitch prizes because it is sad. It concerns the retirement from journalism of a western editor-in-chief, and it is couched in these terms:

"The undersigned retires from the editorial chair with the conviction that all is vanity. From the hour he started his paper to the present time he has been solicited to lie upon every given subject, and can't remember having told a wholesome truth without diminishing his subscription list or making an enemy. Under these circumstances of trial and having a thorough contempt for himself, he retires in order to recruit his moral constitution."

* * *

Ex-President Cleveland used to fish and hunt a good deal in the Barnegat bay district. John Camburn, a Waretown guide, says that one cold, wet night Mr. Cleveland got lost. He wandered through the mud and rain and darkness for more than two hours, but not a house could be seen, not a light, not a road.

Finally, though, he struck a narrow lane and in due course a house appeared. Mr. Cleveland was cold and tired; he thought he would go no farther. So he banged at the door till a window on the second floor went up and a gruff voice said:

"Who are you?"

"A friend," said Mr. Cleveland meekly.

"What do you want?"

"To stay here all night."

"Stay there, then."

And the window descended with a bang and Mr. Cleveland, shouldering his gun again, resumed his journey wearily.

* * *

A lady of one of the old families living near Boston related to a writer the other day an anecdote of Daniel Webster which has never been in print before. This lady happened to be one of a few friends who went with Mr. Webster to the hall where hung on exhibition, previous to its final location in Faneuil hall, Mr. Healy's now famous painting representing Webster making his reply to Hayne. "Mr. Webster," said the lady, "was very feeble and was led in by the artist. Ascending the platform which commanded a view of the picture, Webster looked at it for some minutes, making pleasant observations to his friends respecting the different senators and the various points of interest on the canvas. This portrait and that were spoken of and even the pages recognized. Finally, turning to go, Mr. Webster quietly remarked: 'And as for that man standing there in the center—well, I've seen better looking men in my day than he.'

* * *

James Whitcomb Riley went to Philadelphia recently to sit to John S. Sergeant for his portrait. The settings were in John Lambert's studio on South Seventh street. Mr. Riley during one of them said:

"Bill Nye and I once played a good trick on a New York millionaire. Twemlow was the fellow's name, and he was an insufferable snob—insufferable. All over his house hung family trees, ancestral portraits, crests and coats-of-arms. You'd have thought him descended in a direct line from at least a hundred earls.

"It happened in New York one day that Nye was upset by a dray and rolled about in the mud. When he got up he was a sight; his clothes were in rags, his shirt and face black and his hat without a rim.

"'Let's go and see Twemlow,' he said suddenly. 'Think how disgusted he'll be to see me in this rig.'

"We went to Twemlow's house and a flunkey in knee breeches answered our ring.

"'Mr. Twemlow is not at home,' he said.

"'Oh, very well,' said Nye, 'just tell him that his uncle from the workhouse called.'

* * *

The late George. T. Cline, the eccentric Chicago millionaire, who lived all alone in a hotel—a hotel of seventy-five rooms—that he had bought and closed—had a passion for violins and for Irishmen. Though on himself he would never spend more than 15 or 20 cents a day, he would readily pay $2,000 or $3,000 for a violin, and he thought nothing of buying Irishmen sumptuous dinners with champagne in order to hear them talk their musical brogue.

An Irishman once played Colonel Cline false. He stole a pair of boots from him. Discovering the theft, the millionaire pursued the Irishman, overtaking him as he was about to enter a pawnshop with the boots in his hand.

"Those are my boots; you have stolen them," said Colonel Cline.

"Sure. it was only a joke," said the Irishman.

But the inexorable millionaire haled the thief before a magistrate and here again the man repeated:

"It was only a joke, your honor."

"Only a joke, hey?" said the magistrate. "Well, Mr. Cline, how far away from your house had he carried the boots when you overtook him?"

"Over a mile, sir," replied the millionaire.

"Held for court," said the magistrate. "This is a case of carrying a joke too far."

* * *

During the recent trial in New York of Samuel J. Parks, a walking delegate, on the charge of extortion, ex-Chief of Police Devery appeared in the court room.

"I have no particular business here," Devery said, "only Parks is a friend of mine, and I want to give him my moral support."

Then, before he left, Mr. Devery told a story about a young doctor.

"This young doctor," he said, "had a habit of drinking too much in the evening, after working hours. One night his best patient, a rich and strait-laced old woman, sent for him and he decided he would call on her, though he was pretty far gone and he knew it.

"So he took another drink to brace him, got into his carriage and drove to the old woman's house. He found her in bed. He asked her a question or two, ashamed all the time of his thick voice, and then he took hold of her wrist to count her pulse.

"But he found he couldn't count her pulse; he was too far gone even for that. Turning a deep purple with mortification and shame, he said: 'Drunk, by Jove,' and without another word he staggered out of the room and went home.

"Next morning a letter was brought to him and he opened it with a groan, for he recognized the handwriting of his rich old female patient, and he knew that now she was giving him his dismissal. But out dropped a check for $150 and he read something like this:

"'Dear Doctor: I know only too well that you discovered on visiting me last night that unfortunate and shameful condition in which I had placed myself by accident; but I trust you will regard what you witnessed as a professional secret, and I enclose a small check that will, I hope, be sufficient to repay you for your trouble."—Washington Star.

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Not to Err—Elgin.

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right on time is the man
who carries the

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MACBETH, Pittsburgh.

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SALT LAKE ROUTE

NORA'S DREAM.

It was vacation and Nora was almost tired of the holidays. One evening as she lay down on the grass with her dog Max close beside her, she heard a noise. She looked up to see some birds quarreling in a tree. Among them was a beautiful silvery white one. In an instant he was on the grass beside her.

"Oh, how beautiful!" exclaimed Nora.

"Everybody says that about me," answered the bird.

'Will you come and sit on my lap?" asked Nora.

"That is never done, but I will come and sit on your wrist," he replied.

"All birds will not do that, but you may come," laughed Nora.

"Why aren't you working?"

"Why, it is not right to work on holidays."

"Come go with me."

"Oh, I could not do that, mamma would be frightened."

"I will bring you back."

"But I have on my every day dress and apron."

"I will change them to prettier ones."

She was much amazed to see herself looking so pretty.

"Can't Max go, too?" she asked.

"Yes," and in a second the little dog was changed into a butterfly, and the bird said:

"Let us go."

They began to fly and after they had flown a long way they stopped to rest in an apple tree. Three little children were cutting weeds in a garden. A cat was with them. One of the brooms with which they were sweeping up the weeds struck him and he ran up into the tree. The girl said:

"Come back kitty, we did not mean to do it."

He did not come back, but went farther away. The bird said:

"We must go, they have plenty of work to do."

They flew on and came to a house where a little boy was feeding chickens. A crutch was lying near and she knew that he was lame. The pretty bird said:

"The little boy works, he feeds the chickens and sells the eggs to help his mother. The boy has his work to do, so let us go on."

They flew away and after a while came to a rose covered cottage, flying in through a bay window they found a little boy in bed. He was trying to coax his pet dog into the bed with him. He had promised his mamma to stay in bed until she could dress him.

"The hardest work is to keep a promise, and he is keeping his well," said the bird.

Then they left that house and flew toward home. The bird said:

"Do you not see that it is better to work than be idle?"

"Oh, yes, we must agree with you, must we not, Max?"

Max said yes.

Nora was delighted to hear Max speak. As they came to a lawn where a little girl was asleep with a dog beside her, the bird changed them back again, and Nora raised up rubbing her eyes.

She said she did not dream because she found a white feather on the ground beside her. She cleaned out her mother's yard and always found work to do after that.—Annabel.

One of the latest novelties is canned Belgian hare. The meat is said to be very good.

HOW TO RID CATS OF FLEAS.

The following method would rid small dogs as well as cats of fleas:

This method is used by a Chicago lady, who owns some of the best cats in America. She has ready a square of cotton batting and a square of cotton cloth, placing the cat in the center of the batting, which has been laid over the cloth; she rubs strong spirits of camphor quickly into the fur, and then gathers the corners of the batting and cloth tight around the neck of the animal. She has a fine comb ready and a dish of hot water, for the pests, which detest the camphor, will run to the head of the cat, and must be combed out and plunged into the hot water. Hundreds of them, however, will jump from the cat and lodge in the cotton batting, where their scaly feet stick in the cotton so that they cannot get away. When the fleas cease to run out on to the head of the cat she judges that all have deserted the cat. The animal is then let out of the batting bag, and the latter carefully carried to the kitchen and deposited in the stove. The scent of the camphor clings to the cat for some time and acts as a preventive. An entire cattery may be cleaned out in this way.—U. S. Department of Agriculture.

REMEDIES AGAINST ANTS.

(U. S. Department of Agriculture,)

Mr. J. B. Blandy, of Funchal, Madeira, writes that the following remedy is used in houses in Funchal against ants: Tartar emetic, 10 grams; white sugar, 100 grams; water, 1000 grams. Mix the sugar and water well and put on the fire until it boils, then let it cool, add the tartar emetic and dissolve it equally. Set about in tins or other receptacles, covered with wire netting, for fear of injuring cats or dogs.

Mrs. Conklin, Perris, Cal., writes that in her experience an application of corrosive sublimate applied with a brush to the edges, back, sides and crevices of shelves in what is known as adobe cool room vanished ants for the entire season. Nests in gardens were destroyed with bisulphide of carbon, as recommended by this division in Bulletin No. 4, on household insects.

FRUIT CONSUMPTION TO INCREASE.

In Coleman's Rural World Prof. Van Deman, Ex.-U. S. Pomologist, expresses himself as believing that the consumption of fruit is yet in its infancy.

"In my opinion," he says, "the main reason for the present high prices for fruit that generally rule the markets of America, and that is likely to maintain them in the future, is that we are getting to be more and more a race of fruit consumers. In the early days of our history, when fruit was grown with far less trouble than now, because of the absence of many of our troublesome and destructive insect and fungus enemies, there was very little profit in growing it. It is true enough that many of the varieties were not so good as those we have now, but they had a few that were excellent and that remain among our best kinds today. Good winter apples sold from 25 cents to 50 cents a bushel and sometimes much less. Peaches brought still less. Grapes had almost no sale at all, and berries the same way. Brandy, cider and wine were the principal products manufactured from fruit, and many orchards of both apples and peaches were planted solely for the making of the drink. Now we do not hear of any such thing, and all the brandy and cider that is made is out of the scraps. However, there are great vineyards planted especially for making wine. Oranges were almost a curiosity in the markets when our fathers were children, but now they are almost as abundant as good apples in some of our leading markets in the flush of their season.

How has all this change come about? Aside from the mere fact in the case of the eating of fruit by our people instead of drinking its juices in alcoholic form, there are several other reasons. The very cheap and quick means of transportation make it possible for those to get fruits in the fresh state who could not do so before; and these facilities are getting better every day. The cost of production has been lessened by improved methods of culture and handling. Evaporating and canning have become established branches of the fruit industry. They utilize millions of tons of fruit every year, and much of that which might otherwise go to waste, because of its poor quality or abundance. Another important factor in the fruit business is our exportations. Great as they are now they are only well started. Our fresh fruits are sent abroad in large quantities, but the canned, preserved and evaporated food products are winning their way into all the markets of the world. American dried prunes are being sold in France, Germany and other countries where we once had to send for these same articles for our own consumption. Even our raisins are getting a foothold there. America is becoming more of a manufacturing country, and all of the toilers in the great hives of industry call for something to feed them. They want our fruit and are able to pay for it. One point that might be overlooked is the fact that our fruits are really better in quality than they once were, and are constantly getting better. And the better they are the more will be wanted and better the price. No, do not be alarmed about the fruit business being overdone. The world is progressing and we who grow fruit must keep pace with the procession.

RECIPES

Eat Little, but Have That Little Good

White Soup.—Take a good knuckle of veal, or 2 or 3 short shanks; boil in four quarts of water about four hours, with some whole white pepper, a little mace, salt, 2 onions and a small piece of lean ham; strain it and when cold take off all the fat and sediment; beat up six yolks of eggs and mix them with a pint of cream, then pour the boiling soup upon it. Boil the cream before putting it into the soup.

* * *

Salmon Chowder.—Put a piece of butter size of walnut into the skillet, add 3 pints of milk (or a little more), then pour in a can of salmon, and when boiling add cracker crumbs enough to thicken well. Nice for luncheon.

* * *

Potted Pigeons.—Half dozen pigeons; ¼-pound of salt pork or a little bacon; 1 tablespoon flour; 1 pint stock or water; 1 bay leaf; 1 onion; 1 sprig of parsley; 1 teaspoon salt; a little black pepper. Clean and wash the pigeons, fill the same as roast chicken and truss. Put the pork in frying pan and fry out all the fat. Roll the pigeons in flour and brown them in the hot fat. When nicely browned put them in a stewing pan, add the flour to the fat remaining in the frying pan, stir until a nice brown, add the stock or water, stir again until it boils, add salt, pepper, bay leaf, onion sliced and parsley. Pour this over the pigeons, cover the stewing pan and simmer gently 2 hours. When done remove the string, strain the gravy over and around the pigeons.

* * *

Celery Salad.—Chop fine 1 stalk celery, wash 2 heads of lettuce, sprinkle celery over it, then add dressing, made as follows: Two teaspoons sugar, pinch salt, a little pepper, (black and red) ¼-spoon mustard; mix together, adding enough olive oil to moisten it, then add ¼ cup vinegar.

* * *

Dainty Pudding.—Beat 2 tablespoons flour, 4 tablespoons sugar, and the yolks of four eggs thoroughly together; add teaspoon salt and pour 1 quart boiling milk over mixture; bake one-half hour. When done, have the whites beaten with a little sugar and put on top and brown in oven. Flavor with lemon. To be eaten cold.

To the man or woman who takes a long railway trip only once in several years, the trip from the Pacific Coast to Chicago and the East requires much preparation and anxious thought as to the best way to go.

There are many ways. Each has its advantages

The frequent traveler has his favorite route, and while he may try another sometimes for sake of variety, he generally sticks to the Santa Fe, which he knows can give him the best of service in quick time and comfort.

When You Go East

The occasional traveler may therefore be safely guided by the experience of the other and select the Santa Fe when arranging for his eastern trip.

If economy is necessary or desirable the Tourist Sleepers fill the bill.

If the best can be afforded the California Limited offers more than home comforts.

See the Santa Fe agent about it.

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Every day from March 1st to April 30th, inclusive. Tickets will be sold over the

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to points in New Mexico, Arizona and California, as follows:

CHICAGO	-	$33.00
ST. LOUIS	-	$30.00
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And many others at proportionate rates. Ask Santa Fe agents for full particulars

THE NECESSITY FOR GOOD ROADS.

(Continued from first page.)

have planted oleanders and roses on their borders. They need very little cultivation, but what a beautiful sight when in bloom! Others have palms and umbrellas. We should encourage this planting along our highways. In a few years the valleys would look like a vast garden of trees and shrubs. Does it pay to plant trees along the roadside? We know a farmer whose land is bordered with palms and umbrellas, who trimmed up the umbrellas last year, and the trimmings furnished many cords of good wood.

We spend much money every year in advertising the resources of this country. Would it not be money well spent to give us better roads? Every farmer would certainly say "yes," and good roads would be a great inducement for people to locate in this State. More than 60,000 Eastern tourists came into California this season; they scattered to every part of the State, and more than 10,000 have remained as permanent citizens. Of this number, it is safe to say, three-fourths are in quest of ranches or different industries, and it is also safe to say, of this number, the great majority will be attracted to those sections where the best highways are in existence, paying more for these ranches than the same would bring if situated along roads which are imperfect and difficult to travel.

THE STOCK SITUATION.

There is as much demoralization in the stock market as there is in the orange market. The two industries appear to be affected somewhat similarly, although, of course, not from the same causes. The past two years have witnessed very violent extremes in live stock values. During 1902 cattle prices got up to the $9.00 mark for carloads in the open market, and considerably higher than that during the international show period. For several years there had been a strong boom in cattle breeding and cattle feeding, and it is not surprising that feeders, after the excessively high prices of 1902, were misled into heavy production of beef cattle during 1903.

Big money was made by feeders in 1902, but the feeding trade suffered very heavy losses on the great bulk of cattle the past year, owing to the fact that the cost of feeding cattle was very high and the value of corn was so great.

Prices for cattle seem to fluctuate very violently, and this makes it difficult for feeders to base their calculations very far in advance. While cattle have made as much and lost as much money as they ever did before during the past two years, the fluctuations have not been without precedent. Figures presented by Facts and Figures show that as a result of enormous cattle production, coupled with the panicky time along in the seventies, cattle raising during the latter part of that decade was rather overdone and extremely unprofitable. As times began to improve, the live stock trade became more popular and the wave of prosperity carried values in 1882 up to a high figure; this resulted in extraordinary effort to utilize all of the free government range and to restock the farms and feed lots of the corn belt. Over-production lasted well into the panic period of 1893 to 1896, and there was a wild rush to get out of the cattle business, almost regardless of prices. The result was that stocks of cattle all over the country were so greatly reduced that values again began to advance. From 1898 to 1903 there was a steady rise in prices of breeding cattle and also beef cattle. Prices in 1902 were the highest in twenty years and close to the highest on record.

During the opening months of 1904 conditions are such that feeders and breeders are perplexed as to what they may expect for the future. While there is little doubt that the country has liberal supplies of cattle and is very strongly opposed to feed freely of corn that is high priced and lacking in quality, the indications seem to point to a steadier situation and an adjustment of values that will enable producers to obtain fair compensation for their skill and work.

It is a noteworthy fact that while some men have been able to follow the ups and downs in cattle prices, getting in or out, according as values were high or low, the majority who have followed the plan of trying to hit the high spots and dodge the low ones, have succeeded in doing the reverse of what they expected, simply because they went with the crowd.

If one is shrewd enough to be able to see what the majority of people intend to do and then do the other thing, he is, of course, sure to reap a rich reward, but such business is too speculative and altogether too fickle for the average man. The key-note of the success of the most successful stock breeders and feeders is keeping steadily at it, working with the idea of producing the best possible quality at the smallest cost of production and turning the stock to market as soon as it is ready to go, regardless of whether future prospects seem to justify further holding or not.

Hog raisers and feeders during the past few years have made more money than ever before in their business.

The hog has proven himself to be truly a mortgage lifter, and after having lifted the mortgage on many a farm he has enabled the owner to make better improvements and to secure a fair share of luxuries and comforts for the home.

Sheep breeding and feeding has undergone many changes within late years, and at the present time sheep are doing their full share to contribute to the wealth of the country. Three important facts are notable in the sheep business: First—The great improvement in the mutton quality. Second—The large increase in the consumptive demand in this country for mutton. Third—The tendency of corn belt and eastern feeders to depend more upon choice range-bred stock than upon sheep of their own breeding.

The great profit of sheep growing on government land has had a tendency to over-stock the ranges, and in many places caused great winter losses. It is a question whether the range country will long be able to produce sheep and lambs enough to supply the demand from eastern finishers.

For Sale Cheap

Four hundred fine, large, clean Valencia Lates and two hundred Washington Navels, to close out my nursery. 40c EACH.

R. L. Rutherford Highland, Cal.

ALIAS SUMMONS.
No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

Los Angeles Markets.

Los Angeles, April 14, 1904.

The prices on nearly all commodities have been ruling firm for the past few days. The dry weather is again having a tendency to start the prices upward, but as yet there is no excitement being shown as the dealers are fairly well supplied.

Butter.

At the last meeting of the Creamery Board of Trade, a price of 40 cents was fixed for creamery butter. It is thought that this will be the ruling price for some time. Dealers are storing and some are reported to have refused to fill orders. Lower grades are moving well. Market firm.

B. of T. Cream', 2-lb roll		40
Valley creamery, fancy	45	
Coast Creamery		45
Cooking, per lb		22

Cheese.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	16	
Northern	14	15
Swiss	19	
Imported do	28	

Eggs.

Much interest is being shown to eggs. The price has advanced. It is thought that the unusual strength is due to the scarcity of eggs in the east. There is comparatively no eastern stock being offered to the trade. How long these conditions will prevail, is a hard problem in the minds of the local dealers.

Fresh ranch	19	20
Store, case count	18	

Poultry.

There is little to be said regarding the poultry situation that has not been reported in the past. All stocks are holding firm at the prices heretofore quoted. Cold storage goods are being substituted almost entirely.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Potatoes are very scarce especially the northern stock. Prices have advenced 20 cents over last weeks quotations, and it is reported by local dealers, that there is a still higher price in evidence.

River, per cwt		1 90
Oregon, do		2 05
Local Sweets, white		3 25
Early Rose seed	2 25	
Pinkeye, do		2 00
Nevada Pearls, do		2 00

Vegetables; Mixed.

Vegetables are coming in quite plentifully but the demand is sufficient to consume nearly all varieties as fast as they are offered. Cabbage is very scarce, and the grade is of an inferior quality. Rhubarb is freely offered and the quality is that of the best. A lower price is quoted. Hubbard squash is advancing, demand good at the price quoted. Quotations are as follows:

Onions, Nevada, fancy		4 00
Beets, per 100 lbs		1 25
Cabbages, do		1 50
Green peas	02	04
Lettuce, per sack		40
Tomatoes, 25 lb crate		1 50
Celery	25	30
Hubbard squash, per ton		20 00
Carrots, per sack		85
String beans	08	
Chiles, string		75
Chiles, green, per lb	10	
Rhubarb	75	85
Cauliflower, per doz		[illegible]
Asparagus	06	10

CITRUS FRUITS; FRESH

Oranges, lemons and apples are moving fairly well with no change in market quotations.

Fancy, 126s, per box	2 00	
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 50	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs	1 00	1 50
Strawberries	05	10
Loquats		05

Fruits; Dried.

Dried fruit unchanged. Demand only fair. Prices range as follows:

Apples, evaporated	06	09
Apricots	08	10
Peaches	06	08
Prunes	03	06
Pears		12
Raisins, per box		3 00
Raisins. loose	07	08

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05½

Hay and Grain.

Hay is not coming in as freely for the past few days, however there is no change from last week's quotation. If dry weather continues higher prices are anticipated for next week. A higher quotation is noted in wheat and barley. In fair demand at the following prices:

Alfalfa	11 00	13 00
Tame oat		12 50
Barley hay	10 00	13 00
Wheat hay		13 00
Oats	1 25	1 35
Wheat	1 45	1 55
Barley	1 15	1 17½
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, April 6.

Dairy.

San Francisco, April 13.

There has been a continuance of the apathy on the part of buyers which characterized the easy tone of the market last week. Prices show little change and purchases are limited to actual requirements.

BUTTER—Per lb.:

Creamery, extras	19 @19½
Creamery, good to fancy	18 @18½
Dairy, choice	16 @17
Dairy, extra	18 @17
Store	14 @15
Eastern creamery	Nominal
California storage	Nominal

CHEESE—Per lb:

Cal. Creamery, mild new, choice	8 @10

Cal. Creamery, mild, new, extra..11
Young America .....10 @11½
Eastern, New York Cream, Cheddars and flats, new .....15 @16

Eggs and Poultry.

The market for eggs maintains a steady tone at former quotations:

EGGS—Per doz:
Ranch, selected large 20
Ranch, good to choice .....18½@19
Store .....17 @18
California storage .....Nominal
Eastern .....Nominal

Poultry remains at practically the same figures as were quoted last week.

POULTRY—Old Roosters, per doz., $5@6, young Roosters, $7@8.50; Fryers, $6@7; Broilers, large, $4.50@5.50; small, $2@3.50; Hens, doz., old, $5.50@6.50; young, $6.50@8; Live Turkeys, per lb., 16@18c; Dressed Turkeys, per lb., ——; Geese, per pair, $2.25@2.50; Goslings, $2.25@2.50; Pigeons, per doz., old, $1.25@1.50; Squabs, $2.50@2.75.

Fruits and Vegetables.

The vegetable market assumed a little better tone this week, especially for potatoes. Prices yesterday were as follows:

VEGETABLES—Asparagus, extra, per lb., 6@7c; No. 1 4@5c; No. 2, 2½@3½c; Tomatoes, per box or crate, southern, $1@1.50; do, Mexican, $1.50@2; Rhubarb, per box, 35c@$1; Green Peppers, per lb., Mexican, 15@25c; Dried Peppers, Stockton, 5@8c; southern 8@12½c; String Beans, per lb., 10@15c; Wax, 10c; Green Peas, per lb., bay, 2½@3½c; do, Los Angeles, 2½@3½c; Egg Plant, per lb., 12½@25c; Summer Squash, per box, $1@1.50; Cucumbers, hothouse, per doz., 75c@$1.50; Garlic, per lb., 15c; Dry Okra, per lb., 12½c; Marrowfat Squash, jobbing at 1¾@2c a lb.

POTATOES—Per ctl: River Burbanks, $1.25@$1.50; Early Rose, $1.40@1.75; River Reds, $1@1.10; Garnet Chile, $1.25@1.50; Oregon Burbanks, $1.50@1.75; New Potatoes, per lb., 2½@3c.

DECIDUOUS FRUITS—Apples, per box, common to choice, 50c@$1.50; fancy, $1.75@2.25.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.50@2.25; choice, $1@1.65; standard, 90c@$1.25, according to size; Seedless, nominal; Lemons, 75c@$2.50; Grape Fruit, $1@2; Tangerines, $1.25@1.75; Limes, $4@4.50.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are, per lb, as follows:

Apples—Evaporated, 5@6c; Sun Dried, 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice, 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 5¾@6½c; fancy, 7@7½c; peeled, in boxes, 11@14c.

Pears—Bartlett, fancy, 11½c; choice, 9½@10c.

Hops.

The price for new crop is 24@27½c per lb., according to quality.

Beans.

The market for Beans is dull, with a marked absence of inquiry noted in all lines.

BEANS—Prices per ctl.: Large Whites, $2.60@2.75; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.30@3.40; Red, $4.50@5; Pink, $3.20@3.40; Bayo, $2.40@2.55; Blackeyes, $2.05@2.25; Kidneys, $4.75@5.

Live Stock.

CATTLE—No. 4 Native Steers, 9½@10c; second quality, 8½@9c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 7@7½c; second quality, 6½@7c; thin Cows and Heifers, 5@6c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 6@6¼c; weighing under 130 lbs and over, 5¾@6c; weighing 250 to 300 lbs, 5½c@6c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $14@17; Wheat and Oat, $14@15; Oat, $12; Barley, nominal, Clover, nominal; Alfalfa, $12@13.

STRAW—Good to choice, per bale, 60@70c.

OIL CAKE MEAL—In lots of 20 tons, $29.50.

CRACKED CORN—Choice quality, per ton, $28@29.

FEED CORN MEAL—Choice grades, per ton, $29@31.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $23.50@24.50.

MIDDLINGS—Per ton, $24@26.

BRAN—Per ton, $19@20.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 shipping, per ctl., $1.37; choice, $1.50; White Milling, good to choice, $1.42.

BARLEY—Choice No. 1 Feed, $1.06¼@1.12; off grades, $1.10@1.11¼; Brewing No. 1, $1.17½@1.21¾; Chevalier nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small, do, nominal; White, $1.37½@1.45; Eastern, $1.32½@1.40.

CRACKED CORN—Choice quality, per ton, $30@31.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

CHICAGO, April 13.—Extremely light receipts in the Northwest caused a firm tone in wheat at the opening the July option being a shade to ½c to ¾c higher at 85¾@85¾. There was an active demand from the start, covering by shorts being a noticeable feature during the first hour of trading. Numerous crop damage reports from all sections of the country were received. Indiana particularly sending in a great many messages regarding ruined wheat fields. The Southwest also continued to keep the trade informed of the poor prospects in that quarter. As the session advanced, reports from the Northwest became equally bullish. An urgent investment demand developed. The long interests had apparently been quite thoroughly cleaned up on recent declines.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat 90@97; No. 3, 85@96½; No. 2 red, 95@97; No. 2 corn, 53; No. 2 yellow, 53; No. 2 oats, 37⅞; No. 3 white, 37½@42½; No. 2 rye, 67@68; good feeding barley, 31@35; fair to choice malting, 44@55; No. 1 flax seed, 1.09; No. 1 Northwestern, 1.16; prime timothy seed, 2.80; mess pork, per bbl. 12.25@12.37½; lard, per 100 lbs., 6.55@6.37½; short ribs, sides (loose), 6.25@6.37½; short clear sides (boxed), 6.75@7.00; clover, contract grade, 10.75.

DAIRY MARKET.

On the Produce Exchange today the butter market was easy; creamery, 14@23½; dairy, 12½@21; eggs, firmer, 16½; cheese, weak, 9@10½.

Chicago Live Stock.

CHICAGO, April 13.—Cattle—Receipts, 18,000; steady to strong; good to prime strees, 5.10@5.50; poor to medium, 3.50@4.90; stockers and feeders, 3.75@4.35; cows, 2.00@4.25; heifers, 2.25@4.50; canners, 2.00@2.60; bulls, 2.00@4.10; calves, 2.50@5.00; Texas-fed steers, 4.00@4.60. Hogs—Receipts today, 21,000; tomorrow, 20,000; strong, 5c higher; mixed and butchers', 5.10@5.35; good to choice heavy, 5.25@5.40; rought heavy, 5.10@5.25; light, 4.90@5.25; bulk of sales, 5.10@5.30. Sheep—Receipts, 15,000; sheep and lambs, steady to strong; good to choice wethers, 4.75@5.40; fair to choice mixed, 3.50@4.50; western sheep 4.50@5.35; native lambs, 4.50@5.50; western lambs, 5.50@6.40.

Dried Fruits, Nuts, Etc.

NEW YORK, April 13.—The market for evaporated apples is weak in tone under a light demand. Common are quoted at 4@5¼; prime, 5½@5¾; fancy, 6¼@6½; choice, 7@7½. Prunes continue quiet and easy, with quotations ranging from 3@5¾ according to grade. Apricots are quiet, but steady; choice, 9½@10; extra choice 10¼@10½; fancy, 11@13; Peaches steady; choice, 7¼@7½; extra choice, 7¾@8; fancy, 9½@10.

CITRUS MARKETS

New York, April 13.

There has been a large amount of damaged and puffy fruit received in the East this week which has had a tendency to keep down prices. Good weather tended to hold quotations up to where they have been but the character of the fruit has been poor as a general thing and this has hurt sales. On strictly large and fine fruit prices have been firm, but not especially advanced.

AUCTIONS.

NEW YORK CITY, April 12th, 1904.
NAVELS.

La Mesa, Riv., Riverside, $2.15; Red Globe, $1.80; Pepper, $1.85.
Iris, D. M. Ex., Duarte, $2.20; Violet, $1.85.
Arrowhead, S. B. Ex., Highlands, $1.90.
Tiger, S. B. Ex., Colton, $2.20.
Blue Seal, A. C. G. Ex., Azusa, $2.15; Red Shield, $1.90.
Leader, Q. C. Ex., Corona, $1.95; Choice, $1.65.
Cloister, Rubidoux Ft. Co., $2.20; Elephant, $1.95.
Three Fates, A. L. King, $2.05; Orchard Run, $2.05.
Lion Head, C. C. U., Redlands, $2.05; Tiger Head, $1.75, $1.80; Redlands Beauties, $2.20; Clover, $1.85; Atlas, $1.80.
Capitol, C. C. U., Highgrove, $1.65.
Poinsettia, C. C. U., A. Sta. Riv., $1.90.
Capitol, C. C. U., Riverside, $1.85.
Azalia, C. C. U., Fullerton, $1.40.
Selects, S. A. Ex., San Dimas, $1.70; Harmony, $1.50.
Alta Mesa, Corson, Highland, $2.10.
Young America, P. & McKeavit, $2.00; Football, $1.70.
V. V., Cov. Ex., Azusa, $1.50.
BLOODS.
Blue Mtn., P. & McKeavit, .80; Young America, .80.
So. Beauty, Q. C. Ex., Corona, $1.65; Leader, $1.75.
Tiger R. B., S. B. Ex., Colton, $2.05; Floral R. B., $2.05.
Blue Seal, A. C. G. Ex., Azusa, $1.80.
Cloister, ½, Rubidoux Ft. Co., $1.05.
Three Fates, A. L. King, $1.00.
Poppy, ½, R. B., C. C. U., Redlands, $2.30.
Red Globe R. B., Riv., Riverside, $1.95.
TANGERINES.
Blue Seal, A. C. G., Azusa, $2.65.
Blue Globe, Riv., Riverside, $2.20.
Southland Beauties (Seedless Grape), Q. C. Ex., Corona, $2.10.
Titus Ranch (Seedlings), C. C. U., San Marino, $1.85.

BOSTON, Mass., April 12th, 1904.
NAVELS.

La Mesa, Riv., Riverside, $2.15; Golden Rule, $1.75; Blue Globe, $1.60.
Iris, D. M. Ex., Duarte, $1.75; Violet, $1.65.
Tiger, S. B. Ex., Colton, $2.30; Floral, $2.25.
Swan, S. B. Ex., Redlands, $1.95.
Owl, O. K. Ex., Upland, $1.75; Bear, $1.95; Quail (Grape), $1.70.
Poppy, C. C. U., Redlands, $2.20; Atlas, $1.85; Clover, $1.80; Atlas, $1.70, $1.80.
Rialto, C. C. U., Rialto, $1.75; Gondolier, $1.55.
Cactus, C. C. U., Highland, $1.70.
Volunteer, S. A. Ex., No. Pomona, $1.80; Foothill, $1.70.
Tunnel, S. T. Ex., Fernando, $1.95; Urchin, $1.80.
GRAPE FRUIT.
Tiger, S. B. Ex., Colton, $1.65.
Atlas, C. C. U., Redlands, $1.95; Poppy, ½, $1.10.
Tiger, S. B. Ex., Colton, $2.10.

NEW YORK CITY, April 11th, 1904.
NAVELS.

Old Mission, Chapman's, Fullerton, $2.40; Golden Eagle, $1.60.
Covina, Houser Bros., Covina, $1.70.
Stella, Riverside Ft. Co., $1.90; Fruitland Park, $1.75.
Rose, C. C. U., Redlands, $2.15; Tiger Head, $1.70, $1.65; Clover, $1.80, $1.65.
National, C. C. U., Riverside, $2.10; Capitol, $1.70; National T. I., $2.10; Capitol T. I. K., $1.90; Poinsettia, $1.90.
Cactus, C. C. U., Highland, $1.55; Trophy, $2.15; Cactus, $1.70.
National, C. C. U., Highgrove, $1.85; Capitol, $1.80; Daisy, $1.60.
Carnation, C. C. U., C. B. Station, $1.80.
Turquoise, C. C. U., Corona, $1.45.
Infantry, C. C. U., Piru, $1.95.
Squirrel, A. H. Ex. Prenda, $1.65.
Fancy, S. T. Ex., Glendale, $1.65.
Old Mission, Chapmans', Fullerton, $1.90.
Cloister, Rubidoux Ft. Co., $2.15; Elephant, $1.75; Orange Girl, $1.85; Peoples' Taste, $2.00.
Blue Globe, Riv., Riverside, $2.10; La Mesa, $2.15; Blue Globe, $2.10; Red Globe, $1.65; Golden Rule, $1.70.
Uncle Sam, Pachappa, $1.65.
Red Globe (Bloods), Riverside, $1.80.
Pointer, A. C. G. Ex., Azusa, $1.55; Hunter, $1.50; Red Shield, $1.50.
Tiger, S. B. Ex., Colton, $2.20.
Tally Ho, S. B. Ex., Rialto, $1.75.
Carrier, S. B. Ex., Highland, $1.75.
Iris, D. M. Ex., Duarte, $2.10; Violet, $1.80; Iris T. I., $2.45; Violet, $1.65.
XX, Cov. Ex., Savoy, $1.45.
VV, Cov. Ex., Azusa, $1.40.
GRAPE FRUIT.
Old Mission, Chapmans', $3.00.
Puritan, S. B. Ex., Rialto, $1.95.
Iris (Malta B.), D. M. Ex., Duarte, $2.30.
Blue Globe, Riv., Riverside, $2.20.
Stag, A. C. G. Ex., Azusa, $1.45.
Blue Globe, Ruby B., Riv., Riverside, $2.55.

PHILADELPHIA, Pa., April 11th, 1904.
NAVELS.

Cloister, Rubidoux Ft. Co., $2.15.
Bridegrove, J. L. Meana, Pomona, $2.05.
Covina, Houser Bros., $1.80.
Lion Head, C. C. U., Redlands, $2.25; Tiger Head, $1.85, $1.95; Clover, $1.90; Blossom, $1.90, $1.65.
Sky High, C. C. U., San Marino, $1.50.
Beaver, C. C. U., Orange, $1.65.
Lily, C. C. U., Lindsay, $1.90.
Golden Rod, C. C. U., No. Pomona, $1.80.
Mission Bells, C. C. U., Chapman, $1.80.
Highland (Lemons), Highland F. G. A., $2.25; Highland, Ch., $1.75.
Blue Mtn., Pinkham & McKeavit, $1.75.
La France, J. S. Kuns, Covina, $1.45.
Red Mtn., Riv., Riverside, $1.90; Red Glove, $1.90.
Union, C. C. U., Drew Sta., $1.95; Cloise, $1.85.
Parrot, S. A. Ex., Pomona, $1.80; Jewel, $1.75.
Bear, O. K. Ex., W. Cucamonga, $2.45; Lark, $1.85.
Coyote, O. K. Ex., Ontario, $1.60.
La France (Lemons), J. S. Kuns, $1.80.

BOSTON, Mass., April 11th, 1904.
NAVELS.

Cloister, Rubidoux Ft. Co., $2.25; Elephant, $2.00.
Marigold, Fiverside Ft. Co., $1.80.
Cal. Beaut., Worthley, Strong, $1.30; Peoples Taste, $1.90.
Clover, C. C. U., Redlands, $1.90; Herald, $1.90; Atlas, $1.60; Clover, $1.90; Rose, $2.00; Blossom, $1.70.
Yosemite, C. C. U., Highland, $1.75.
Poinsettia, C. C. U., A. Sta., Riv., $1.90.
Clover (R. B.), C. C. U., Redlands, $2.40.
McNair (Lemons), $2.35; Clown, $2.25; Maine, $2.10.
Mt. Chief, Cal. Cit. Union, $1.75; Orange Girl, $2.00.
Swan, S. B. Ex., Redlands, $2.00; Arrowhead, S. B. Ex., Highland, $2.00.
Blue Mtn., Riv., Riverside, $1.95; Red Mtn., $1.95; Red Globe, $1.90.
Lincoln, C. B. Station, $1.20.
Pet, S. A. Ex., San Dimas, $1.75.
VV, Cov. Ex., Azusa, $1.25.
Artillery, C. C. U., Fillmore, $1.55.
Yosemite, C. C. U., W. Highland, $1.75.
Rose (Bloods), C. C. U., Redlands, $1.25.

NEW YORK CITY, Friday, April 8th, 1904.
NAVELS.

La Mesa, Riv. Riverside, $2.20.
Squirrel, A. H. Ex., Prenda, $1.60.
Arrowhead, S. B. Ex., Highland, $1.90; Pine Cone, $2.05.
Cycle, V. C. Ex., Fillmore, $1.70.
Pointer, A. C. G. Ex., Lateen, $1.35.
Camellia, $1.95; Blossom, $1.70.
Palm Tree, A. H. Ex., Prenda, $1.50.
Iris, D. M. Ex., Duarte, $1.90; Violet, $1.75.
Jewel, S. A. Ex., Pomona, $1.65.
VV, Cov. Ex., Azusa, $1.30.
Selects, S. A. Ex., San Dimas, $1.70.
Cloister, Rubidoux Ft. Co., $2.15, $1.95, $2.10.
I. X. L., Benchley Ft. Co., $1.70.
Cal. Beauty, Worthley, Strong, $2.10.
Pine Cone (Tangs), S. B. Ex., Highland, $2.10.
Iris (Malta Bloods), D. M., Duarte, $2.20.
Camilla, C. C. U., Redlands, $2.05; Clover, $1.70; Lion Head, $1.90; Tiger Head, $1.70.
National, C. C. U., Riverside, $2.05.
Fox, C. C. U., W. Duarte, $1.75; Liberty, $1.60.
Rialto, C. C. U., Rialto, $1.85.
Carnation, C. C. U., C. B. Station, $1.65.
Infantry, C. C. U., Fillmore, $1.40.
Sunshine (Seeds), Whittier, $1.15.
Elephant, Rubidoux Ft. Co., $1.70.
Boy, Ind., Plancentia, $1.55.
Covina, Houser Bros., $1.70.
G. O. B. (Tangs), ½, A. H. Ex., Prenda, $2.60.
Fancy (Tangs), C. C. U., Redlands, $2.50.

PHILADELPHIA, Pa., April 8th, 1904.
NAVELS.

Iris, D. M. Ex., Duarte, $2.40; Violet, $1.60.
La Mesa, Riv., Riverside, $2.25; Golden Rule, $2.05.
Ben Hur, S. B. Ex., Redlands, $1.90.
Selects, S. A. Ex., No. Pomona, $1.90.
Red C, Cov. Ex., Covina, $1.90; Red C, T. I., $2.25; Butterfly, $1.65.
VV, Cov. Ex., Azusa, $1.60.
Tiger Head, C. C. U., Redlands, $1.95; Blossom, $2.10; Clover, $1.50, $2.00; Monogram, $1.95.
Cactus, C. C. U., E. Highland, $1.70.
Lilac, C. C. U., Pomona, $1.80.
Azalia (Budded), C. C. U., Anaheim, $1.25.
Jewel, S. A. Ex., Pomona, $1.80.
Choice, Q. C. Ex., Corona, $1.85.
Echo, S. T. Ex., Pasadena, $1.80.
TANGERINES.
Cloister, Rubidoux Ft. Co., $1.30; Cloister (Bloods), ½, $1.25.
Golden Rule, ½, Riv., Riverside, $1.20.
Padra (Grape), Rubidoux Ft. Co., $2.10.

BOSTON, Mass., April 8th, 1904.

Swan, S. B. Ex., Redlands, $2.10; Royal Knight, $2.40; Ben Hur, $1.45.
Monogram, Q. C. Ex., Corona, $1.95.
Blue Globe, Riv., Riverside, $2.15; Red Globe, $2.10; Golden Rule, $1.55.
Squirrel, A. H. Ex., Prenda, $1.85.
Echo, S. T. Ex., Pasadena, $1.50.
Blossom, C. C. U., Redlands, $1.90; Atlas, $1.80; Rose, $2.15; Clover, $1.80; Tiger Head, $1.45.
Angel, C. C. U., Colton, $2.00.
Sky High, C. C. U., San Marino, $1.70.
Yosemite, C. C. U., Highland, $1.95.

NEW YORK CITY, April 7th, 1904.
NAVELS.

Blue Globe, Riv., Riverside, $2.20; La Mesa, $2.20.
Uncle Sam, Riv., Pachappa, $1.90; Fiesta, $1.50.
Golden Orange, A. H. Ex., Arlington, $2.70.
Squirrel, A. H. Ex., Prenda, $1.90.
Iris, D. M. Ex., Duarte, $1.80.
VV, Cov. Ex., Azusa, $1.15; V, $1.05.
Red C, Cov. Ex., Covina, $1.25.
Artillery, C. C. U., Fillmore, $1.55.
Independent, Corson, Highland, $1.90, $1.75.
Alta Mesa, $1.95, $2.00.
Cloister, Rubidoux Ft. Co., $1.75, $2.05, $2.10.
Elephant, $1.65.
Canyon Crest, Red. Heights, O. G., $1.50.
Yankee Doodle, Thacker Bros., $1.55.
I. X. L., Benchley Ft. Co., $1.60; Park, $1.80, $1.75.
Camillia, C. C. U., Redlands, $2.00; Redland Beauties, $2.10; Clover $1.55, $1.55, $1.60; Tiger Head, $1.60; Atlas, $1.70.
Gypsy Queen, C. C. U., C. B. Sta., $1.70; Carnation, $1.50.
National, C. C. U., Highgrove, $1.90.
Yosemite, C. C. U., W. Highland, $1.65.
Gypsy Queen, C. C. U., Riverside, $1.85; Carnation, $1.65.
Old Mission, Chapmans', $2.70.
Old Mission, Fullerton, $2.00; Golden Eagle, $1.80.
Young America, Pinkham & McKeavit, $1.80, $1.75.
Orange Prince, Collins Ft. Co., $2.00; Orchard Queen, $1.90.
Mountain Chief, Cal. Cit. Union, $1.90.
Stella, Riverside Ft. Co., $1.70; Angelus, $1.95; Ellis, $1.75.
GRAPE FRUIT.
Old Mission, Chapmans, $3.10.
Orange Prince, Collins Ft. Co., $1.50.
TANGERINES.
Blue Mtn., ½, P. & McKeavit, $1.35.
Fancy, C. C. U., Redlands, $2.00.
Gypsy Queen, ½, C. C. U., C. B. Sta., $1.40.
Gypsy Queen (Ruby Bloods), Cal. Cit. Union, Casa Blanca Station, $2.10.
Blue Globe, ¼, Riv., Riverside, $2.50; La Mesa, $2.80.
Poppy, ½, C. C. U., Redlands, $1.90.

BOSTON, Mass, April 7th, 1904.
NAVELS.

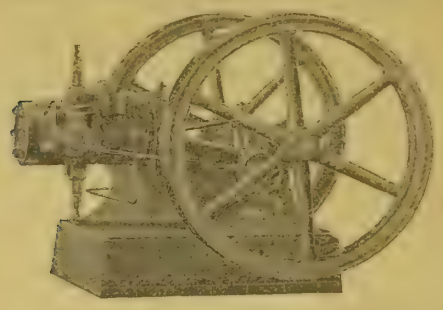
La Mesa, Riv., Riverside, $2.25; Blue Globe, $2.10; Red Globe, $1.95; Red Mtn., $1.80.
Tiger, S. B. Ex., Colton, $1.85; Floral, $1.65.
Squirrel, A. H. Ex., Arlington, $1.80.
Arrowhead, S. B. Ex., Highland, $1.85.
Angel, C. C. U., Colton, $1.40; Marguerite, $1.45.
Cloister, Rubidoux Ft. Co., $2.05.
Atlas, C. C. U., Redlands, $1.95, $1.60; Redlands Beauties, $2.25; Clover, $1.70; Tiger Head, $1.70.
Cream, C. C. U., Rialto, $1.75; Minnehaha, $1.55.
Excelsior, C. C. U., A. Sta., Riv., $1.85.
Topaz, C. C. U., Covina, $1.40; Sapphire, $1.45; Plain End, $1.55.
LEMONS.
Liberty, $2.30; Tiger (Grape), S. B. Ex., Colton, $1.50; Reservoir, $1.75.
Fancy (Tangs), C. C. U., Redlands, $1.00.
Total to date this season, 14,781 cars, of which 1137 cars are lemons.
Total to same date last season, 10,940 cars, of which 1152 were lemons.

The secretary of the California Petroleum Association makes the statement that last year California produced 23,602,000 barrels of petroleum. At the end of the year there were in operation 2902 wells. The largest production was in the Kern River district, which yielded 15,505,000 barrels. The next district in point of production was Coalinga, which made a record of 2,600,000 barrels. Santa Maria is credited with 1,000,000 barrels, Los Angeles with 900,000, McKittrick with 1,700,000, Newhall and Ventura with 900,000, Fullerton with 250,000, Whittier with 50,000. The Sunset and Midway produced 250,000 barrels jointly. Summerland, where the oil is taken out from under the ocean, yielded 100,000 barrels. Half-Moon Bay and Sargent's are credited with producing 1000 barrels of oil. Kern River operated but 750 wells, as against 980 in Los Angeles, 115 at Coalinga, 138 at Fullerton, 80 at Puente, 103 at Whittier, 190 at Summerland, 24 at Santa Maria, 76 at McKittrick, 120 at Sunset and Midway, 4 at Sargent's and 5 at Half-Moon Bay.

The annual meeting of the Deciduous Fruit Asociation of Anaheim was held at the Association office in Anaheim, Cal., on April 11. The attendance was large and after hearing the president's report of the past season's business there was some discussion of marketing methods. A resolution was then offered, and unanimously carried, endorsing the present method of marketing and authorizing the directors to follow the exchange plan of marketing, which has been so successful in the past. This association has marketed through the agents of the Southern California Fruit Exchange for the past six years and has succeeded in paying top prices to its members. The following were elected officers for the coming year: J. B. Neff, president; J. B. Rea, vice-president; J. A. Eymann, secretary; Samuel Kraemer and Frank Shanley, directors.

FOURTEENTH YEAR

OF BUILDING GASOLINE AND DISTILLATE ENGINES



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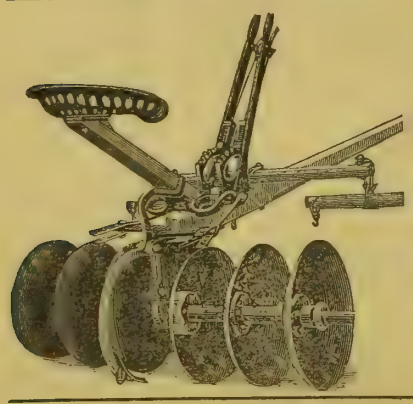

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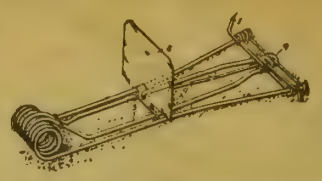

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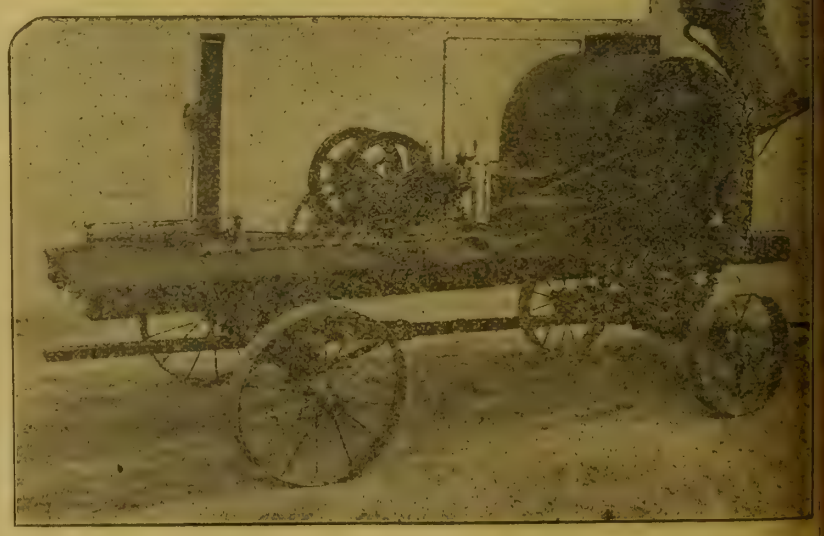

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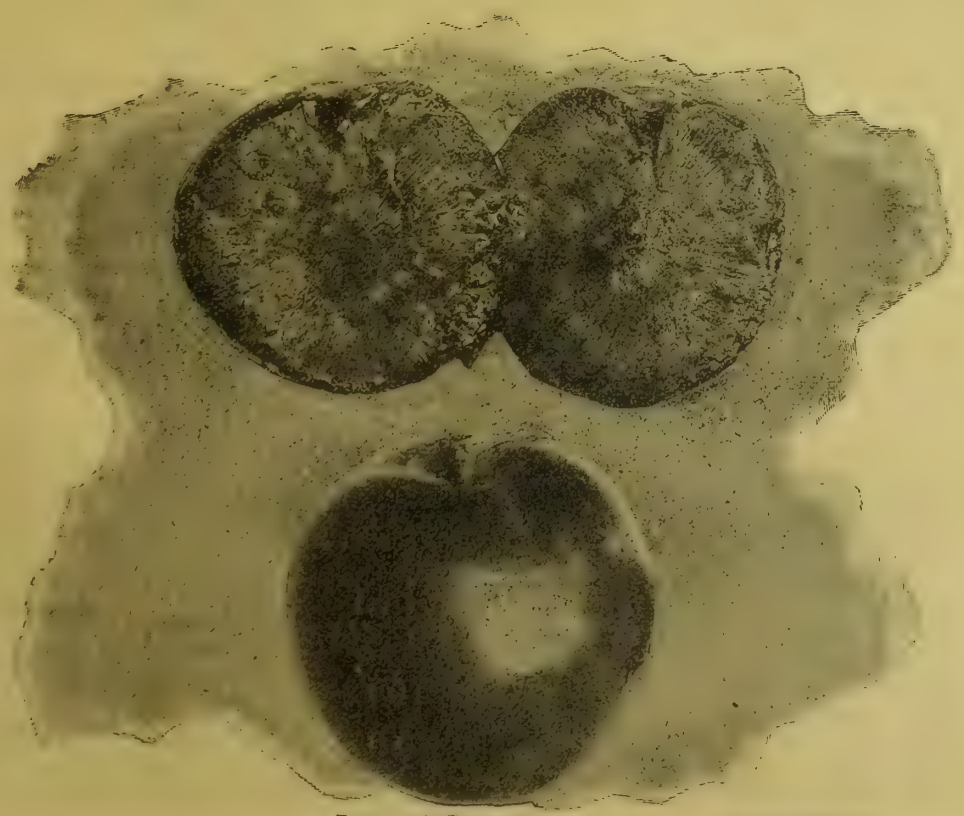
LOS ANGELES SAN FRANCISCO

APRIL 22, 1904

IN THIS ISSUE: Jersey Cow Test Expense; Spraying vs. Spraying; A Successful Man; The April Institutes; Success After Thousands of Failures.



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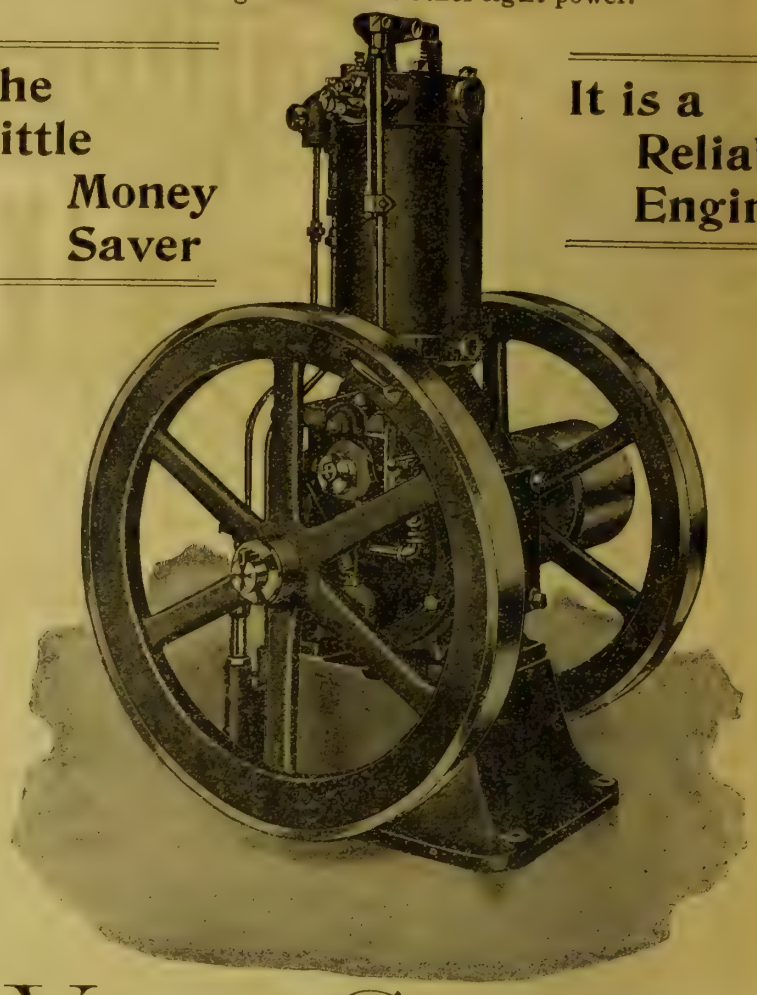

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Keep your eye on the Imperial Valley! Another grand excursion will be run from Los Angeles and other middle California towns, to Imperial Valley at slaughter price rates, on

MAY, 4, 1904

Better make arrangements to join this magnificent excursion. It will be accompanied by the famous Catalina Marine Band, fine dining car service and sleeping car accommodations in a vestibule train, from the time we leave Los Angeles until we return. A Two Day's Outing. Free Ticket if you purchase property at the Brawley Town Lot Auction Sale.

"Cities are not great except as men may make them,
Men are not great except as they do and dare;
Yet cities, like men have destinies that take them
And bear them on, not knowing why nor where."

"Great oaks from little acorns grow."

REMEMBER

"There is a tide in the affairs of men which, taken at its flood, leads to fortune."

The Stockman's Paradise

Never in the history of the world has there been such a modern "Valley of the Nile" as is presented in the Imperial Valley. Many of the parties who attended the recent excursion to Imperial have already made all the way from 50 per cent to over 100 per cent. on their investment in town lots. It is now proposed to give another auction sale of town lots in the beautiful village of **Brawley, California,** situated ten miles from Imperial and the main line of the Southern Pacific Railroad. If you want a jolly outing, and an opportunity to see this magnificent valley, get ready and accompany our May 4th excursion. For further particulars call on or address

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 17 LOS ANGELES, CAL., FRIDAY, APRIL 22, 1904 Subscription $1 a Year

Success After Thousands of Failures...

Luther Burbank, who has more failures and more magnificent successes than is usually given to man to enjoy.---By C. B. M.

Wherever 'the round world over' men know flowers and fruits, know of their origin, their development and their creation, there is Luther Burbank recognized as a man of wondrous power. He has done things. Like that soldier hero, who at the outbreak of the Spanish war, carried his Nation's message to Garcia, Mr. Burbank, without flourish of trumpets, without asking for fame, has been quietly at work for years at his home farm near Santa Rosa, California, developing and making fruits and flowers. Patiently, tenderly, enthusiastically, he has worked with such results that all men who know them give him the highest honor and praise.—Charles Sedgwick Aiken, Editor Sunset Magazine.

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It was only a few minutes—a very few minutes—interview which it was my pleasure to have with Burbank—Luther Burbank, not the wizard, as he has been called, but indefatigable worker in horticulture. Genius has been defined as capacity for continual hard work. and such a term is far more applicable to Burbank than wizard.

As I say, I had only a few minutes with this man, which may not have given sufficient insight to justify a character sketch, but I may give a few items of the man and his work, which will be of interest to Cultivator readers.

It was a beautiful Santa Rosa day. It was the last day of March and it was "going out like a lamb," and the presiding saint of the community had touched bush and vine with magic wand and beautiful roses were on all sides. Nearly all of March had been blessed with continual downpour of rain till the soil worker had despaired. But now all were turning to with a will. and Luther Burbank was no exception.

I was told that Mr. Burbank lived on Santa Rosa avenue, a couple of blocks beyond the bridge over the creek from which the town takes its name. I found a neat little place. At this season not a great display of flowers is made. In fact, the principal feature is a well kept lawn back to the cottage, some distance from the roadway. Along the street are a half dozen beautiful walnuts—hybrids of the English and California black walnuts. At the sides of the house—an old-fashioned L shaped house—are beds for propagation of various flowers, A low box hedge borders the walk, and there is more of the appearance of "the old home back east" than one usually sees in California. Mr. Burbank was at luncheon but I was given catalogues of Shasta daisy and other new creations to look over while waiting for the short interview which was promised me. The sitting room was cozy, with here and there on the walls a photo of fruits or flowers. Just a comfortable room in which one can rest, without being distracted by a vast amount of bric a brac.

One of the pamphlets related to the Shasta daisy, or rather to new Shastas, which are as much larger, and finer than the original Shasta, as it is larger than the original "moonpenny" daisies. The original Shasta was introduced in 1901, but the same care in selection has been continued till now these mammoth specimens, of which the illustration on this page is a representation, are produced. The engraving is natural size though Mr. Burbank told me that under favorable circumstances and cultivation, that he has brought them to six inches in diameter.

A daisy six inches may be regarded as a California story, but that has often been charged in matters of fact regarding Burbank productions. The name of the new daisies, while still carrying the original Shasta, are further given: Alaska, California and Westralia. The California is the one illustrated on this page.

On Mr. Burbank's appearance it was evident that his work was not entirely "by direction" but by actual contact with nature. His boots had the polish of the soil and his hands and clothing showed him to be a worker. Not that he had the appearance of untidyness—far from that—simply the dress of the busy man whose mission to give the world something to make it better and more prosperous, precludes the possibility of attention of the fastidious man to his dress. He greeted me cordially, and sat and chatted pleasantly for several minutes. This, in consideration of the fact that I am one of six thousand. That is, during the past year, over six thousand visitors called at the door of this little cottage. It takes the patience of a tireless worker to stand such a strain as this. Asked as to his first success, Mr. Burbank referred to that wonder, which has meant millions of dollars of benefit to the human family—the Burbank potato. When a young man, he found a seed ball on a plant of the Early Rose potato in his mother's garden in Massachusetts. From this ball he secured twenty-three seeds and from one of these seeds came the Burbank potato. Regarding this first success, Prof. E.

(Continued on Page 403)

The New Shasta Daisy—California

SPRAYING VS. SPRAYING.

Read before the Los Angeles County Apple Growers Association.

What I may say about spraying only relates to two common enemies of the apple, and for Los Angeles county, although it may hold good in other localities.

Let me first say that spraying is only a means to check or prevent some enemy of our fruit or, trees, from doing serious damage, until some of nature's remedies can be found that will hold them in check. To say that we should spray all the time, that is monthly, or yearly, as the case may be, is unreasonable, and takes away the profits.

I remember reading a few years ago about Elwood Cooper, of Santa Barbara, spending about $6000 per annum for spraying. The results were evidently not satisfactory for he gave up spraying to a large extent, and turned his attention to finding some of the natural enemies of the pests. This I have always thought to be the proper solution for the question.

Shall we spray for the San Jose scale? This is a question we are all asking ourselves. About 4 or 5 years ago Mr. Maskew, our local inspector found a small lady bird eating the San Jose scale near Long Beach, and it seemed to be doing good work. It was found in my orchard, and in order to give it a chance, I stopped spraying for the San Jose scale, which resulted in having scaley fruit for the year 1902. Last year the fruit was much cleaner, and this spring the lady birds are more numerous than ever before. Now I am not prepared to say that these little lady birds will hold the scale in check sufficiently to be satisfactory. But I shall give it all the opportunity possible, for at least two more years. Then conclusions can be arrived at more satisfactorily. The question will be asked, how can this lady bird be identified, and what is its name. In size it is about as large as the head of a small pin, and a little oblong in shape. Its color is red under black. It has recently been sent to Washington for identification and it was not among the classified insects. Then the following name was given it: Pseudoweisea saturalis (Schw.). I found the larvae of it in my orchard several years ago and was satisfied it was eating the young San Jose scale. Both larva and the lady bird are found on the trunks and limbs of the young trees, but more difficult to find on older and larger trees.

Now it may be necessary to spray the young apple trees if infested with San Jose scale, until the lady birds have found the orchard or been brought to it.

It is reasonable to suppose that this lady bird in addition to the internal parasites and other enemies of the San Jose scale, will hold it in check. However, we hear from orchards farther north that the San Jose scale is very scarce, where it was doing great damage a few years ago. Let us, however, hope that we have found in this small lady bird a friend and one that will prove itself to be a great benefactor to the orchardist.

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Codling Moth.—It is now the time of year to decide what effort will be made against the codling moth. Many have been looking, and hoping to hear of some favorable results from the experiment work near Watsonville, by our State University professors. Pliny wrote hundreds of years ago about wormy apples, and if he referred to the codling moth, we need not look for great results from one years' investigation. We know very little about the control of the codling moth, after many years of study by many of our horticulturists. Personally, I have very little faith in spraying for the codling moth. But when I am confronted with the statement that in order to be successful I must spray every two weeks from blooming time to the picking of the fruit in order to have a large per cent free from worms, I hesitate. And for a good reason. I fear the profits would be all gone and figures in red ink would appear. Is there not an enemy of the codling moth that will hold it in check? Have you ever heard of any? A fruit that is grown as widely and extensively as the apple must have the desired enemy somewhere.

Will give you the only case I have heard of. This is an answer to questions I asked Mr. Frank Femmons, of Ahwahnee, Medera Co., Cal. Writing under date of February 1, 1902, he said: "I know one orchard where it was quite bad some years ago, but the moth entirely disappeared, and yet there had been nothing done to destroy it. It may have met some natural enemy in this moutainous section."

I hope so. But what it is I have no idea. Again, writing this month about the codling moth, he says:

"As the pest seems to make but little headway here, I hope that it will not prove a serious menace to our apple growing."

These few lines have brightened my hope that some day we may know the cause of the disappearance of the codling moth from that one orchard and the holding in check of the moth in other orchards. May this same blessing come to the orchards of Los Angeles county.

I wish that some competent person might be sent to search the orchards of that section of our State, for I believe in due time he would be rewarded and the great question of how to control the codling moth would be solved. —Nelson Ward, Compton.

The census bureau has just made public the estimates on the population of the United States for 1903. The population is put at 79,900,389, exclusive of Alaska and the insulor possessions. San Francisco is placed at 355,919.

The Fernando Press, by H. W. Crooks, is a new paper just received. The new journal was needed and if the citizens will give it proper support we are sure Mr. Crooks will give them full value for their money.

WALNUT MEN AWARD CONTRACT.

The annual meeting and election of officers of the Walnut Growers' Association of Southern California was held on Thursday last in the assembly hall at the Chamber of Commerce. W. H. Spurgeon of Santa Ana was re-elected president and J. A. Montgomery of Rivera, secretary and treasurer.

The principal business transacted in the two sessions, held in the morning and afternoon, was that of making the selling contracts, signing the agreements among themselves and opening and awarding bids for walnut bags. The contract was awarded to the Gulf Bag Company, of San Francisco, 100,000 bags being ordered. Figures were submitted by a large number of California companies. They were exceedingly close and a lively discussion resulted.

The members will meet again this week, at which time the brokers' contract will be adopted and signed. This will regulate the grading of nuts. The meeting of last week was composed of the boards of directors of eleven different incorporated walnut growers' associations in Southern California.

"THE JERUSALEM ARTICHOKE."

Much has been written for and against this tuber and the general conclusion has not proved satisfactory in California.

It must interest stockmen in general and especially those raising hogs, that this artichoke has been raised with great success in Hemet and there is no reason why it can not be successfully raised under similar conditions anywhere. These conditions are merely those found where the potato thrives. While not requiring so much water as the potato, it would be unsafe to depend upon rains in Southern California. It is an annual, and does not mature until late in the fall. It may be planted any time after the frosts, up to July. The sod should not be dug until just before beginning to sprout, as it keeps much better in the ground than in storage. Last year one sack of seed produced one hundred sacks. That is, the artichoke is about seven times more productive than the potato. On the other hand, but one crop can be raised per year. Where the hog is allowed to dig the tubers, the soil is enriched rather than impoverished, making it possible to use a fenced field for many successive years. All stock relish the artichoke, but care should be taken to feed only the ripe tuber, as otherwise diarrhea is likely to become troublesome. The growing artichoke is affected by a root-rot which is common wherever grown. The trouble attacks about five per cent of the crop and seems to remain stationary at this proportion. As a hog food, it is undoubtedly of great value, coming as it does at a time of year when feed is scarce, and giving to the hog a finish almost equal to a grain diet. Its greatest value is obtained when fed as part of a balanced ration, with alfalfa and grain.

When planted by hand, two hundred pounds per acre is sufficient for seed. One acre will yield two hundred sacks at a low estimate, and there are reports of much larger yields than this. Other crops may produce a greater tonnage per acre, but few will surpass the artichoke, acre for acre, in food value.—F. P. Taylor, Hemet.

APPLE GROWERS MEET.

The monthly meeting of the Los Angeles County apple growers on Saturday was the occasion for the discussion of several interesting subjects.

A special committee appointed some time since on incorporation, reported in effect that the time is hardly ripe for such action, and the matter was passed for the present.

The instructions issued to deputy assessors regarding the taxing of trees and vines brought out a strong sentiment in favor of more just and general taxation. The fact that one man improves his place and beautifies his home, while his neighbor does not, is no reason why the man with the improved farm and the nice home should pay more taxes than the man who neglects his farm and premises, and this is the view taken by the members of the association.

A general discussion on bulletin 153, issued by the University of California on the Codling Moth, was pretty well discussed, but as the paper of the president, Mr. Ward, touched upon the subject, at length, of spraying to destroy the moth the opinions of the members are not here quoted.

GREAT RESULTS FROM IRRIGATION.

The irrigation jubilee to be held at Modesto on the 22nd and 23rd of this month signalizes the creation and completion and successful operation of one of the most far-reaching systems of irrigation in this country. More than 260,000 acres are watered by this ditch. The entire district is divided into two sections, Modesto and Turlock, and into this territory, "within eighteen months over 3,000 settlers have made their homes in these districts," say the papers of Modesto, "and once unbroken grain ranches of from 640 to 10,000 acres in a body have been subdivided and a score of families will now often be found where formerly there was but one. On one of the largest tracts fully 100 families now have homes, and on another in excess of 1000 men, women and children, all from the Middle West, have made their habitation and are prospering. Modesto's population has in the interim jumped from 2000 to about 3000. the settlement of Ceres has doubled in population, and the little town of Turlock has trebled its people and business houses."

"The cost of this great enterprise was $2,500,000, representing a bonded indebtedness of less than $10 per acre on the land, of which only the interest at 5 per cent is payable, during the next twenty years. Enhanced values and business already represent double the investment."

A "great concrete dam thirty miles higher up on the Toulomne river, constructed ten years ago at a cost of $560,000, raises the water to a level from which it is taken on either side by the main canals of the districts. One of these is 74 and the other 64 feet in width on the bottom and they are designed to carry volumes of water eight and six feet in depth respectively. These main canals are each 22 miles in length and supply 200 miles of laterals ranging from 40 down to 20 feet in width."

It is one of the hopeful signs of California's future prosperity that the people are awakening to the importance and necessity of providing irrigation for every acre of tillable land in the State. We may provide against drouth if we will. We may frame our laws as to make irrigation as easy of accomplishment as the growing of trees and vegetables in our soil. The only thing is to prevent water trusts from taking from the people what is by nature theirs.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

'ARMERS' INSTITUTE IN THE CAPITOL CITY.

There is an evident and unfortunate ack of appreciation manifested by the armers of Northern California in the 'armers' Institutes, which are held in hat section of the State. On Friday nd Saturday, last, an Institute was eld in the Senate Chamber of the 'apitol building. This had been advertised for days in the Sacramento aily and weekly papers, besides reeiving extended notices in the city apers. Yet with all the efforts made o get farmers to attend, in spite of he fact that the best talent of the Jniversity was billed to appear and . splendid programme was prepared, here were not half a dozen farmers, utside of those who were to take part n the exercises present, and very ew outside of them from the business opulation of Sacramento. This is a leplorable condition of affairs and hows too well how little the average armer appreciates the efforts which he University is making in his beialf. The speakers of the first session vere E. J. Wickson, Professor of Agricultural Practice, who outlined the good work that the Farmers' Institutes were doing, and gave a running history of them from their commencement and the necessity for extending heir work. To this end more funds will be required by the University, which is limited in its efforts by lack hereof. Prof. Woodworth, spoke on the subject of "Co-operative Experimentation," and his remarks were somewhat in line with those of Prof. Wickson. It was the desire of the University to widen its scope and reach the farmers more closely than they had been able to do, and to this end it was necessary for the farmers to co-operate with them, and it was also necessary that the University be more liberally dealt with in the matter of funds. Prof. Hilgard made an address in the afternoon in which he spoke at length of the cramped aquarters occupied at Berkeley by the Agricultural college of the State University, and the need of larger buildings and more help. On Saturday afternoon Sam. Stow delivered an address on "The Needs of the College of Agriculture, from a Student's Standpoint." in which very much the same ground was gone over and it was shown that the Agricultural College of the University was poorly housed, poorly outfitted with necessary appliances, short of necessary assistance, and in every way unfit for the work it ought to do and stood in need of very libiral appropriations from the State. Prof. Benjamin Ide Wheeler also addressed the Institute on Saturday on which occasion a much better audience was present. His remarks touched upon the work being done by the University especially upon educational lines, and led up to the crying needs of that institution. These are immediately, a farm, a new building for a college of agriculture, a building for an exhibit of agricultural machinery, and a number of other things, which the Professor asserted the University could not get along without. The cost of these, while apparently enormous would be trifling in comparison with the great work which the University is doing for the farmer.

TO KEEP OUT THE RED SPIDER ON CITRUS TREES.

An effort was made lately to get the supervisors of Fresno Co. to pass an ordinance against the importation into that county of Southern California orange stock, on account of the red spider being found on such stock. The red spider is one of the most widely spread of our orchard pests and is found all over California, in the open, and all over the world where proper conditions of warmth are supplied. In the colder sections of the country, it is one of the most serious of the greenhouse pests and gives gardeners and florists very much trouble. The species which attacks citrus stock in Southern California is, however, a different one to that which is so common on almonds, prunes and peaches in the northen counties, but it is quite probable that it will be found wherever the orange will grow. Importations of stock have been made without question for years past from the section where this pest is known to be common, and if it has not already been found in the citurs groves of Fresno, it is probably because conditions, climatic or otherwise have kept it somewhat in check. Every section is wise in stopping infested stock and keeping out all pests and diseases which do not exist in their section, but in this case it looks like an attempt to lock the stable door after the horse has been stolen. It remains now for the County Horticultural Commissioners and Local Inspectors of Fresno, to carefully examine all citrus stock and see that it is properly dipped or fumigated before planting, and this should be done in any event.

PROBABLY A LIGHT PEACH CROP.

Reports coming in from all the peach growing sections of the Sacramento Valley seem to indicate that the peach crop this year will be a light one. Growers in Butte, Yuba, Sutter, Placer, Yolo and Sacramento counties have the same story to tell, that the fruit has set very light on their trees and that there will be not over one-half to two-thirds of a full crop. Where there is such unanimity of opinion among growers, it would seem that there must be a solid basis of fact upon which to base it, and it is probable that the crop will fall below average. But in the early part of the season, when the small fruit begins to drop from the trees and they rid themselves of their surplus load, it always looks as though the entire crop were gone, and we always hear these predictions of a short crop, so it may be that the present time, while there is not a heavy setting of fruit this season, there may still be a fairly good crop of peaches by the time the season is over.

TREE QUACKS AT WORK.

Some tree doctors have lately been carrying on operations in some of the northern counties, and unfortunately have met with some dupes. Their method is to make a contract with the orchard owner to doctor all his trees at so much a tree, one half to be paid when the work is done, the other half when the owner is satisfied that the work has been effective, which is to be some time in the fall. The preparation is a secret one, and the fellows applying it bore a half-inch hole into the heart of the tree, fill this up with their mysterious powder, which according to their claims is taken up in the sap, carried through the whole tree, and kills all insect pests and diseases, which may afflict it. These people are glib talkers, but it is safe to say that they will never return for the second installment on their contract, the first half paying them very well for the work done. It was an old superstition that tree diseases could be cured and all insect pests knocked skywards, by simply stuffing a hole full of some preparation which was supposed to enter into the circulation. Now, the circulation of a tree is not in the heart but in the cambium layer or sap-wood, and any compound introduced into the heart would help the tree to rot but never to improve. As well might we undertake to cure consumption by drilling a hole in a man's leg and filling it with some powder. Any proposition of this kind is a nonsensical one, it is not effective, to pay for it is throwing money away, and we should advise our readers against being bitten by any such proposition.

Appropos to this subject, some years ago a gentleman from New Zealand—not Macauley's traveler, by the way,—came to me and assured me with a great air of mystery, that he had a certain remedy for all tree diseases and pests. I asked him what it was, and he was afraid to give his secret away. After a good deal of assurance on my part that his rights should be respected, and that I could not help him unless I knew something of his system, he gave me his great remedy. It was electricity. His method of applying it was to take two short wires, stick one end of each in the ground, bore a small hole in the tree and insert the other ends. This would establish an electrical current, which would go over the whole tree and shock off all the insects. I asked him if he had ever tried it and he said he had not; so I advised him to go a long way out in the country, and find some big orchardist and give it a practical test. I have never heard from him since, and I do not think I am betraying any confidence now in making this public for whoever wants to try it. It is just as good as any of the quack tree remedies offered and will cost nothing.

A NEW GARDENER FOR THE CAPITOL GROUNDS.

A change has been made in the management of the Capitol grounds at Sacramento, J. C. Scroggs, who has been head gardener for some time giving place to John Reeves, who took his place on the 15th inst. The capitol grounds are one of the most attractive spots of the State and the only city park maintained at State expense. It is indeed a creditable place and is taken advantage of by the people of Sacramento who spend very much of their time during the heated spell beneath the beautiful trees which give abundance of shade. It is to a very great extent an experimental plot, for here are grown a great variety of trees of all climes and brought from all parts, and most of them are doing so well that they illustrate in a small space the great diversity of forest growth our State is susceptible of. There is great room here for good work on the part of the gardener having charge, and he should be given the widest scope and be required to have in the grounds at all seasons such plants, blooming shrubs and flowers as the season will admit, and by careful selection the flower beds could be kept in bloom every month in the year. Sacramento is the point of introduction to California of a very great part of the eastern immigration, and it should be the aim to make it as attractive as possible. There are two changes that should be made in this park. The old wooden pavilion building, which becomes a partial wreck with every high wind, should be removed, and the state printing office which cannot be carried on without some dirt and disorder, should be given some other quarters, and the whole of this tract be devoted to park purposes. As it is the maintenance of the manufacturing plant in one corner and a huge empty building in another, detract very largely from one of the beauty spots of the State.

PROGRESS OF IRRIGATION.

At the time of the passage of the irrigation law, we had an irrigated area in the arid region of the United States of approximately 8,000,000 acres, a larger area than that artificially watered in any other country except British India; and while no lands have as yet been watered and in all probability no considerable acreage will be for the next two years under national projects, yet irrigation reclamation by private enterprise has not been retarded by the passage of the act, but on the other hand, as was anticipated, seems to have received an impetus therefrom. The census bureau estimates that approximately 9,200,000 acres were under irrigation in July of last year.—National Magazine.

TO QUIT LEMON BUSINESS.

A dispatch from Italy of recent date avers that an agreement has been reached between the importers of lemons and the steamship companies under which the latter will not speculate in lemons and that the former shall limit cargoes to 25,000 boxes. The two important points have been gained in the rehabilitation of the lemon business in this country. The next thing to be done is to stop the division of shipments, concentrating them all in this country and the business will once more resume normal conditions.

Continuing at length to discuss the matter the author of the above information says: "With the steamships out of business and importers in a position to regulate cargoes and arrivals, every one ought to make more money. There is a good sale for Sicily lemons throughout the East and all the territory west to Chicago can be supplied, as well from Baltimore. Competition of other ports ought not to affect the trade there."

At the Farmers' Club meeting held at San Jose last Saturday a committee was appointed, representing the farmers clubs and granges of that vicinity, to work out a plan for the practical demonstration of prunes at the St. Louis fair this summer. It is estimated that the cost will be $2000 and from 10 to 15 tons of prunes will be needed to properly conduct the exhibit. The chamber of commerce has promised $100 a month for six months to help defray the expense.

Conducted by PROF. A. J. COOK, Claremont, Cal

THE APRIL INSTITUTES.

The April Institutes were well attended, and the interest and enthusiasm were not behind the usual. The first session of each Institute was not well attended in any case, though the later sessions were all that could be desired in this respect, in nearly all the places where the Institutes were held. We would commence with from 20 to 40 present at the opening to find 100 or more at the 2nd and especially the 3rd session. This leads me to wonder if, in case of a two days Institute, especially when work is driving, we had not better omit the A. M. session of the first day. The fact that at all these Institutes, the evening sessions were largely attended shows that it was the pressure of work that kept many away. At Inglewood, we started with about 30, and had a good house in the P. M., and in the evening ran up to over 200. This was typical of all. As I drove by many places where the orchards had not been cultivated since the rains, I bethought me that were they my orchards, I should not leave them for any thing till they were thoroughly tilled.

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Cost of a Box of Oranges—At Anaheim, the actual cost of a box of oranges, was discussed with much of emphasis. Mr. Ware keeps a very close and accurate account of his expense—he must do so as he is working for others and must render a strict acount of every expense and of every item of the business. A box of fruit at the packing house ready for the packer cost him $.25. This included everything, except the interest on the capital, which of course he had nothing to do with. Add to this the 30 to 35 cents that it cost to pack the fruit, and we have a total cost of a packed box of oranges as it started for market, to be from $0.55, to $0.60. Mr. Ware stated that these figures were taken from his books, the three years before the last, which was as yet incomplete. This includes irrigation, fertilization everything. Prof. Twombly, and others thought that this was too low at least $0.25. It was the general opinion that the cost was in most cases as high as $.85 per packed box. I think Mr. Ware is counted a very excellent grower, and so this would seem to show that the expenses in many orchards can be reduced. Sure this should be studied, as here we may have a hint how we can fence against such years of loss as we have just had. We all believe "that a penny saved is as good as a penny earned."

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Distillate Spray at Monrovia—Mr. C. P. Dorland, a very intelligent grower at Monrovia, who has one of the best citrus groves of the place stated that he lost very heavily by following ill advice, regarding the red mite. This pest was very bad in his orchard. Much fruit and many leaves fell because of it. Another advised him later to spray, which he did, and at once the enemy was banished. It would have been, he said, a tremendous gain had he done as did some of his neighbors, and sprayed earlier. Here is where the Cultivator should have served Mr. Dorland, as we have shown for the past year that such a course would result just so, and many have followed our advice to the saving of thousands of dollars. Regarding the red scale, Mr. Day believes that fumigation well done once, will practically give relief, while he thinks that the distillate will not do the work even if applied twice though others said that it would take two fumigations to kill the red scale and some averred that two sprayings would do this. Surely we need more experiment in regard to treatment of this pest. Fortunately we are to get it, and we shall soon know the best way to fight the red scale. In the mean time I would advise those who are suffering, to give the trees a very thorough fumigation, as recommended by Messrs. Day and Pease.

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Poultry—Mrs. A. Basley's excellent talks at Monrovia, Cucamonga and Inglewood, were greatly appreciated. She shows that good care and management will bring large returns from the poultry yard. She insists on every effort to secure for the birds comfort, exercise, and the greatest cleanliness. Lice and mites must be kept off the poultry. Their presence surely drives away all profits. She feeds in straw, so that the birds will have to scratch for their rations. She insisted that the house and yards must be kept scrupulously clean, and that the fowls must have clean water given them two or three times a day. She urges in favor of trap nests, so that we may surely know the hens that lay regularly, and so weed out the ones that give few eggs. I believe that Mrs. B. is wholly right. We follow her plan largely, and we had abundant eggs all the last year, when they were so scarce and so high priced.

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Olives and Apricots—At Elsinore, we had a very fine paper on the olive by Mr. J. C. Ramsdale, who makes the olive a great success. He thinks that the olive is the most profitable fruit of the region. A vote was taken, and fourteen orchardists voted with Mr. R. as to the value of this fruit. An equal number voted in favor of the apricot. These two fruits are at the head at Elsinore. Dr. Sherman of Fresno, who was with us is also a very enthusiastic supporter of the olive. I have sampled his olives and do not wonder that he thinks so. Surely such olives as he produces will capture any market. The real olive oil also has such a superior flavor and aroma, that it must more and more have a place in our markets and on our tables. Mr. Ramsdale urges that the olive must be pruned, cultivated and in every way cared for with the same painstaking as is required by other fruit. One thing that helps the Elsinore people very much is the entire freedom of scale in their orchards. The orchards are very clean, and are really very beautiful. It seems more than probable that Elsinore has a large water supply underneath, awaiting development. Already there are wells in the upper part of the valley that are giving a large amount of the best water.

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Water is King—At Hemet we found a very satisfied people. They rejoice in a large supply of water, and their orchards and cheerfulness show well what water may do in our region. Apricots, the dairy and alfalfa are helping to make this region a very garden. Hemet is also wise in planting liberally of shade trees, and the streets are beautiful. This valley surely has a very bright future before it.

* * *

Lemons in Southern California—Cucamonga, like San Dimas, has some very profitable lemon orchards, which their owners seem in no hurry to bud over to oranges. Mr. John Hofman is a strong advocate of this fruit, and he is well up with the first in his growing and packing of it. Mr. Hofman believes that the lemon can be grown at a good profit, but is sure that the secret of success is in the careful handling of the fruit. He has visited some of the largest and most noted of the orchards and packing houses, and has seldom seen a place where the handling is not open to criticism. The fruit must stand up and this absolutely requires the utmost pains in handling. Any bruise or welt, however slight, is a promise of decay. It is signaficant that Cucamonga and San Dimas both noted for the excellent lemons sent out have both successful and excellent clubs.

* * *

Pop Corn—Inglewood was much interested in Mrs. Sherman's "Family Cow." The rich alfalfa and fertile corn fields make the dairy and the cow a very profitable auxilary to the farms about Inglewood. They have however proved that California does not have to go East for its pop corn. Hundreds of acres of this valuable crop are grown about Inglewood and a fine profit is secured. The growing demand for this vegetable will ensure an unlimited market at good prices for all the coming years. The Club at Inglewood is at work and is making its influence felt in better roads and street planting of trees. We were glad to see the general interest in all sections in tree planting.

* * *

Foul Brood—At the Cucamonga Institute we were favored with the presence of Commissioners Pease and Bee-Inspector R. B. Herron. Mr. Herron has 17000 colonies of bees to look after. To any one who knows the work of such inspection and the still greater work of treating cases of disease when present, will not think the position a sinecure one. Mr. Herron gave me two very important suggestions which if further examination sustain, will be of great value to bee keepers. Mr. Herron's experience seems to make them appear reliable, and the character of "Foul brood" would make them seem reasonable. He finds that if he hives foul brood colonies on full sheets of comb honey at the dawn of winter, the disease does not show as spring comes. No germs were retained, and so a perfect cure was insured. He also finds that if diseased combs are immersed first in nitric acid, and then in sulphuric acid, the cappings are dissolved by the first, and the diseased germs are killed by the second. Afterward the acid can be removed by water. Th two hints may well be acted on by interested.

* * *

Distillate Spray.—D. J. Pitzer a for formula for distillate spray. U 2 per cent mixture of Southern R ing Co. spraying distillate and wa Apply thoroughly with a power spr er. This is the proportion for oran and the red mite (red spider). Mr. Mi of Riverside, applied this at a cos one-half cent per gallon last year. sprayed 700 acres at a cost of six three-quarters cents per tree. The t varied some in size, though most w ten or twelve years old. It costs a tle more for lemons. The cost per a was $5.85. Five spraying machi were run and two supply wagons, no time was lost. The cure was wh satisfactory for the black scale. Fift to twenty gallons of the spray w used per tree, according to size. Mills believes he could equal this cost in a small orchard. The time filling would be more but the cost labor would be less.

[It may be added to above that lemon trees are to be treated strength may be greater—two and o half per cent, and some even usi three per cent. In any case tree sho be in good condition and plenty moisture in soil.—Ed. Cultivator.]

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The BRIGGS-KNIGHT Mf'g Co.
336 E. Second St., LOS ANGELES, CAL.

FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

PEPPER OF COMMERCE.

"Inquisitive," San Jose wants to know why Schinus Molle is called the pepper tree and if it is any kin to the plant (or tree) that produces the common or black pepper of commerce.

Schinus Molle is properly "Mastic Tree" and is called "pepper tree" in California only, by reason of the resemblance of its berries to those of the pepper plant and also because of their strong spicy odor. The black pepper comes from a vine (Piper nigrum) the berries of which have a black skin. When this black skin is removed, the pulverized berry furnishes white pepper. The vine is strictly tropical and will not flourish in this climate. Cayenne pepper is made from the common red or Chile pepper.

* * *

THE "CLIMBING DAHLIA."

This plant, whose botanical name is Hidalgoa Wercklei, is attracting a great deal of attention, not only in the United States, but throughout Europe, and seems to be everywhere a favorite. While not strictly a dahlia, it is closely related and their general appearance is quite similar, both in flower and foliage. The color of the blossoms is an orange red and in shape they are like a single dahlia or a giant cosmos. There is no question but it will prove a valuable plant with us, and no doubt will do best in an eastern exposure where it can get the forenoon's sun and be in a warm atmosphere all day, yet escape the heat of the mid-day sun. This plant was discovered in Costa Rica during 1898 by Werckle, after whom it was named. It first fell into the hands of John Lewis Childs, an eastern plant dealer, who immediately tacked on his own name and sent it out under the name of Childsia Wercklei. It is now generally catalogued under its proper name. The beauty of this plant will, if it thrives in California, make it one of our most common climbers in but a few years' time.

* * *

SHAMROCK.

P. M., Pomona, wisnes to know where she may procure the real shamrock without sending to Ireland for it.

What the real shamrock is the writer cannot state with certainty, for there is much dispute over the matter and many plants are so-called. In Ireland at least half a dozen different plants are called shamrock and the natives in each section will stoutly maintain that their plant is the true shamrock. Two plants seem to have an equal claim to the name, the common clover (Trifolium repens) and the wood sorrel (Oxalis Acetosella). Those who support the clover prove that it was used in early times, long before St. Patrick's day, as emblematic of the Trinity. The other wing to the controversy says that on the day of the shamrock's birth St. Patrick was preaching in a wood and therefore he could not have plucked a leaf from clover, but from the sorrel, which is very common. Clover seems to have a little the best of it in that it is generally accepted as the right plant. Moreover, the wood sorrel has a fleshy or succulent leaf which wilts as soon as picked. There has been much discussion on the subject, both in this country and Europe, but so fully can proof be presented that each of the above is entitled to the name, that many editors have dismissed the whole controversy as unprofitable.

* * *

ASTERS.

Mrs. J. C. M., Riverside, has tried for several years to grow asters, but has not succeeded well. Plants have died off gradually, some when quite small and continuing until blooming well.

We could not tell you the cause of your plants so dying unless we had one or more of them, as many troubles of the aster manifest themselves in the manner described. We suggest the following as the best treatment, but cannot assure you success, though proceeding as suggested will minimize chances of failure: If possible get fresh seed—old seed is more liable to disease. Sow seed in open ground—not in boxes or under any kind of shelter. Prepare the permanent bed where asters have never grown before (same should be done with seed bed too). Work in plenty of well-rotted barnyard manure, mixing thoroughly with the soil. Keep well watered and top of soil loose and free from weeds.

FACTS ON ORANGE SITUATION.

The Pomona Progress, under the above heading, has the following to say of the orange situation: "At a regular monthly meeting of the board of directors of San Antonia Fruit Exchange Manager P. J. Dreher made a full report to the board on the present orange situation. While he did not wish to make any statement for publication, he gave a representative of The Progress the following figures from that report with permission to use them if we saw fit.

That report stated that the climatic conditions during the past three months throughout the Eastern States have been the severest and coldest of which there is any record, while the shipment of oranges from California has exceeded in volume that of any other year at the rate of about 1,000 cars per month. The official records show that 12,388 cars were shipped from Southern California from January 1st to April 4th, inclusive. Nearly 9,000 of these were shipped by the Agency and about 3,500 cars by all the other shippers. Comparing the shipments for the entire season from Southern California with former years (to the same date each year—April 4th) the figures show for 1904, 14,411 cars; for 1903, 10,667 cars; and for 1902, 11,175 cars. The shipments up to January 1st this year were much lighter than in previous years.

The shipments of the San Antonio Fruit Exchange made up to March 1st, were 386 cars, most of which have been accounted for to the different associations. On March 1st, the Exchange had an estimate of 1231 cars of oranges yet to go forward. Of the shipments made since March 1st, 220 cars have been sold. These will average the growers net 59 to 60 cents per packed box, or 88 to 90 cents per 100 pounds, for all grades. This includes all fruit shipped. Market conditions are improving daily as the weather improves in the East. The Exchange has shipped 735 cars of oranges and 125 cars of oranges and 150 cars of lemons yet to go forward.

From the foregoing it will be seen, that while unprecedented cold weather has been experienced in the East, the shipments of oranges have been heavy, in view of the large crop, and while the fruit is not selling for as much as is desired, it is not going for nothing or the amount of the freight, by any means. Nor are there any members of the exchange who will receive red ink returns for their fruit.

Kicker—They say that a guilty person always returns to the scene of his crime.

Bocker—Nonsense! Who ever heard of a cook coming back?—New York Sun.

BUSINESS NOTES

The success of the Imperial excursion of last week encourages another, which will be on May 4.

* * *

JUBILEES.

A Cultivator representative dropped into Oakland recently and of course started to look up A. W. Bessey—Bessey the Jubilee man. When we saw the man then we wanted to see the shop where the famous Jubilee Incubators and brooders are made. This was gladly shown us from rough lumber to packing room with all phases of the work between. Labor saving machinery is at every turn, when possible. But more important than all is the strong and substantial construction of the product. Every thing is directly under Mr. Bessey's supervision or that of his son, A. E. Bessey.

* * *

How to make Hens Lay, is the title of a little booklet mailed free by N. Ohlandt & Co., Indiana and 24th Sts., San Francisco, to any one asking it and mentioning the Cultivator. It's a little thing but full of information as an egg is of meat. It is issued for the purpose of advertising, of course, but that does not lessen the worth of its information. Emery's Run Meat Meal and the B. B. & B. (beef, blood and bone), are described and worth of such foods or additions to the feed of poultry showing also formulas for balanced ration for chicks and hens. Ohlandt & Co. are more liberal than most of us for they say "Don't believe all we say but just enough to try our foods." Besides this the company issue a larger booklet on Fertilizers and Fertilizing. Ohlandt & Co. is one of the biggest manufacturers of these goods, being exporters to sugar producing islands of the Pacific. Notwithstanding that, vast quantities of fertilizers are sold in this State. In addition to the information on fertilizers, how and where to apply, etc., there is added an appendix with formula and calendar for spraying. In it we note: "Trees and vines which are well supplied with a good fertilizer will resist insect pests and fungus diseases to a far greater extent than half starved ones." There might also have been added that when spraying is done with strong solutions, that the tree in thrifty conditions from abundance of soil fertility is less injured than the starved tree.

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HOG CATTLE POULTRY NETTING BARB WIRE
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CLIMATE AND CROP REPORT

Alexander G. McAdie, director of the California section, U. S. Climate and Crop service, reports for the week ending April 18, the following summary:

The weather was warm and clear in all sections at the beginning of the week, with cooler, partly cloudy weather at the close and light rain in the central and northern sections. The warm weather during the past two weeks has caused a rapid melting of the snow in the mountain districts. The rush of water has again washed out some of the piling at the Edwards break, near Sacramento, and the work of closing the levees has been retarded.

The showers were beneficial to grain and grass, which are now in very good condition in all places except the overflowed districts and portions of the southern section. Rapid growth was made during the week, and barley has commenced heading out in some parts of the San Joaquin valley. Haying is in progress in some sections, but will not become general for a week or two. The outlook at present is good for fair crops of grain and hay, though not as large as anticipated earlier in the season. Showers during the next two weeks will be necessary to make even fair crops in many of the southern districts. Farmers are engaged in plowing and cultivating orchards and vineyards. In some sections the soil is still too wet for the cultivation of hop fields and the crop will probably be late. Sugar beets are doing well. Green feed is plentiful in most places and cattle are in good condition. Garden vegetables are growing rapidly.

Oranges are in blossom in the Sacramento valley and Southern California. Deciduous fruits are advancing rapidly and with the exception of peaches, apricots and almonds give indications of large yields. Strawberries of excellent quality are in market and the yield is reported unusually large.

In the same report, Los Angeles report said: "Another dry week seriously affected field crops; grain turning yellow in places. Unless rain comes soon field crops will be short. Apricot and cherry trees are in full bloom. Irrigation continues." But the rain of Monday and Tuesday of nearly an inch —.92 inches at Los Angeles—made a vast difference and conditions are vastly improved.

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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

HORTICULTURE.

Watsonville has commenced shipping strawberries to market.

J. W. Hunt of Sebastopal is shipping large quantities of apples from cold storage plants to Honolulu.

The Johnson-Locke Mercantile Company of Hollister, is negotiating with the Victor Mills property for its fruit packing house.

Fifty tons of dried prunes wil be given away at the St. Louis Exposition to advertise Santa Clara county's greatest resource.

A new drier will be established in the San Thomas district, near Los Gatos, known as the Clarshen drier and packing house.

R. M. Teague of San Dimas recently shipped 50 fine specimens of Washington navel nursery trees to the Worlds' Fair at St. Louis.

The Central Santa Clara Fruit Company at Campbell, has finished packing its dried fruit and is ready to ship its entire product.

The manager of the North Ontario packing house has not a pound of fruit in his possession having sold everthing over a month ago.

The counties of Yolo and Solano complain that the cold, wet weather of the last month has done considerable damage to the apricot crop.

Mr. Kearney of Fresno, one of the important factors in the raisin controversy there, has announced his determination to go to Europe this season.

The Rio Vista Canning & Packing Company has let a contract for $10,000 worth of the latest, improved machinery that will give the plant a capacity of 30,000 cans daily.

G. W. Beal who has been appointed chief inspector of the Fresno raisin growers' association is a practical raisin grower and through him the association expects this year to receive much valuable service.

At Vancouver, Washington, the Fruit Growers' Association has been running its packing house for some time and several carloads of prunes have been sent east. The growers are encouraged very much over the prospects.

The first appearance of the codling moth was noted about April 6th. The warm days seemed to work like magic in bringing the industrious pest to the front from its hiding place where it had been hidden during the winter. —Watsonville Register.

H. H. Logan, who is starting a factory at Riverside to manufacture citric acid and other by-products of the orange and lemon, addressed a meeting of the chamber of commerce at that place yesterday evening. Every aid should be extended this new enterprise.

Alden Anderson, manager of the Fruit Distributing Agency, left Sacramento last week for a trip through the East to visit the principal markets. Before leaving he predicted an average crop of deciduous fruit for California, with the exception of apricots.

At a largely attended meeting of the Claremont Citrus Union held recently, the following resolution was adopted: That the members of the Claremont union present are in favor of retaining the Exchange but are strongly opposed to the merger—the California Fruit Agency.

Watsonville apple growers are working for a fund for further investigation on the codling moth. This to supplement the work of Professors Woodworth and Clarke last year. Pajaro valley apples have a world wide reputation and the growers there propose to hold it.

The Seropian Brothers Company has been incorporated under the laws of Nevada, with a capital stock of $400,000. The Seropian Bros. have heretofore had their headquarters at Fresno and have been leading factors in the raisin industry. The new company will give them more capital.

L. C. Dunham, manager of the Co-Operative Raisin Packers' Assn., says that at his plant and at the Ensign packing house, owned by Rosenberg Bros., of San Francisco, there are about 700 tons of raisins, making a total of about 1,000 tons of the 1903 crop raisins on hand.

The strawberry growers at Florin have decided to pool their issues this year and obtain the advantages which come from co-operation in marketing. Last year's operations netted a loss, although the output was large and the berries were the finest in the State. By avoiding the glutting of the various markets on the coast it is expected that there will be some profit for the growers.

The annual report of the stockholders of the California Fruit Canners' Association held last week in San Francisco, shows the work of the last season to have been very prosperous. The report states that $208,195 had been paid in dividends, and that an increase had been made in the surplus and reserve funds of $225,134.

It was pointed out that the carry-over of canned goods and materials was much less than usual, and that the association entered the fiscal year practically free from indebtedness. The adoption of improved methods in offering and distributing the products of the association were important factors in contributing to the general result, and the sales were about $1,000,000 in excess of those of the previous year.

AGRICULTURE.

The cabbage growers are in clover this year and selling their crop at $30 per ton.

About 1000 acres have been planted to sugar beets in the Pajaro valley this spring.

At San Leandro fears are entertained regarding the almond crop owing to the continuous, heavy rains.

Ventura bean men have received advices that there is likely to be an advance in prices during the next few months.

A Stockton syndicate which made an attempt to corner barley on the Pacific Coast, sold about fifteen hundred tons of spot barley to an agent of the Japanese government last week.

It has rained so steadily in western Oregon this spring, that farmers have not been able to keep up with their work, and as a result it is feared th hot weather coming on may serious affect the crops.

The flurry in barley which affecte the May market one day last wee was caused by the sale of $1500 to to the Japanese. The grain is in th warehouse at San Francisco, and w at once be placed on board the stea ers bound for that country.

Bauckman Bros. of Coachella ha sent to the Los Angeles Chamber Commerce a stool of barley contai ing 762 straws, 12 inches in heigh

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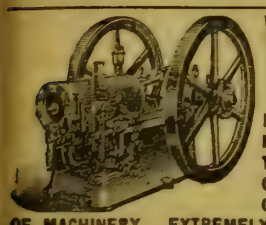
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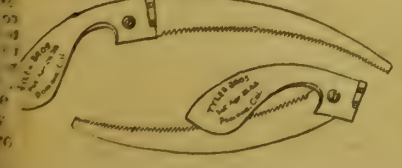
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Coast News and Notes

CONTINUED

heighth of stool, 4 feet. We wait to hear from the locality that can beat this showing.

Trouble in securing help to sow and harvest their grain is causing farmers in the region around Arcata to dispose of their daries. They think they can grow alfalfa and harvest it with less expense and greater profit to themselves.

In eastern Oregon an unusually rainy winter is almost certain to be followed by large yields and the farmers are therefore in good spirits there. The thorough soaking the land has received will also insure good pasturage in the range districts.

The Wells-Fargo Express Co. has prepared and will furnish to fruit and vegetable growers a list of fruit and vegetable dealers west of the Mississippi. This is a good section of the U. S. for disposal of California products and should be exploited to a greater extent than in the past.

Work is going forward in the preparation of the ginseng farm in Ventura. Over 1,000,000 seeds have been imported from Japan at a cost of $2500. The Rural North West thinks that if the ten acre patch of ginseng brings what its promoters anticipate it will, millionaires will be thick in California.

John Markley, the big hop raiser of Yolo county, in a recent interview, said: "My hops were not injured in the least, but have been benefited by the flood, and from present appearances I should have an enormous crop this year. My alfalfa is drowned out, but I have purchased a drill and intend to drill barley into the land and then resow with alfalfa seed, so I will not be such a heavy loser, as I hope to more than make up my other losses on the increased hop crop."

LIVE STOCK.

Arcata, Humboldt county, has a new skimming station.

The Colusa Butter Co. will install a two-ton refrigerating machine.

The Dinuba creamery has been purchased by Wilson Bros., of Orange county.

Petaluma reports having shipped 3,400,000 dozens of eggs from that section during 1903.

A car load of thorough bred Holstein-Freisians has been shipped from Iowa to Porterville.

Members of the San Diego county poultry association will stamp their eggs with the date they were laid and the letters, "S.D.C. Ply. Assn."

The large creamery belonging to Mrs. S. J. McFarland, in Napa county, which was almost destroyed by fire recently, is being rebuilt and enlarged.

W. T. Smith, of Santa Ana, is putting in a large dairy near Tulare, the abundant rains of that section make feed plentiful and insure successful dairying.

The next meeting of the California Creamery Operators' Association will be held in Fresno about the last of November. One of its principal features will be a contest as to keeping qualities of butter. Butter will be received up to June 15 and placed in cold storage until the meeting, when it will be tested as to flavor. The purpose is to stimulate greater interest in importance of keeping quality of butter.

MISCELLANEOUS.

Pomona's flower festival will occur May 5th, 6th and 7th.

A new bank has been organized at Rio Vista, Solano county.

Four new pumping plants for irrigation are being put in at Toluca.

Sonoma county last year oiled seventeen miles of roads most of which were sandy loam.

Over $33,000 worth of lots were sold at Imperial last week at public auction, in two days.

The Marquis ranch of thirty acres, two miles from Burbank has been sold at a consideration of $6000.

The public spirited citizens of Porterville have organized a public library. That is a good move.

The prosecution and conviction of Mrs. Botkin has cost the State of California $12,000 and the end is not in sight.

Bids will be opened on May 9, for the construction of a new central building at the State Asylum at Highland.

The chamber of commerce of Santa Maria is making an effort to induce the S. P. road to build a broad guage road to that city.

Immense avalanches, caused by the bursting of a mountain lake, delayed traffic on the S. P. near Hornbrook last Friday and Saturday.

Very soon the citizens of Escondido expect to celebrate the liquidation of the bonded indebtedness of the Escondido irrigation district.

The apiarists of San Marcos will ship this week six car loads of bees to Nevada on account of the poor prospects for a honey crop in that section.

A warm rain has fallen in the Santa Rosa district relieving the ground of the hard crust formed by the recent hot weather and putting farmers in high spirits.

Mesdames Filcher and Wiggins, wives of California's Commissioners to the St. Louis Exposition, are preparing to dispense elaborate social functions during the life of the Fair.

The city of Napa has just sold $35,000 in bonds, the money to be used in improving parks, planting trees, providing side walks and other things that will add to the appearance of the town.

The Comptroller of the Currency has issued a certificate authorizing the First National Bank of Ventura, Cal., to commence business with a capital of $25,000. C. W. Young is president and Charles Bohnke cashier.

The California State Board of Trade has appointed a committee to deal with the question concerning the selection of a site for the purpose military instruction camp which the Government is about to establish in California.

The Ione and Eastern Railroad Company was incorporated today with a capital stock of $1,000,000, of which $14,000 is subscribed. The purpose of the company is to build a road fourteen miles in length from Ione to a point on Sutter creek.

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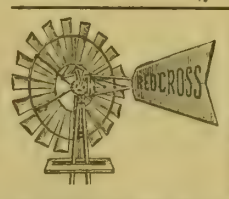

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Friday, April 22, 1904

ITEMS OF INTEREST.

Rain.—The benefit of the recent rain, which reached nearly all over the State can not be estimated. The recent hot and drying winds had crusted the soil so that it was almost impossible to work it, and the grain fields and hay fields were suffering severely. Now, however, this is all changed by the precipitation of, in many sections, nearly an inch of water. In the north the precipitation extended over the last of last week, but did not reach Southern California till Monday evening and Tuesday morning. Some additional damage was done to the breaks in the levees of the Sacramento, but these are infinitessimal compared to the good done. There may also have been some little damage to cut alfalfa in the south and to the hop fields of the northern coast sections.

* * *

The Government and the Farmer.—The biggest factor in the industrial life of the nation is the farmer. The smallest appropriation by the government for protection or added efficiency is to the farmer. For instance, take California, where conditions are new, where new diseases and parasites must be fought, what does the government do to aid the farm industries? A few thousand dollars is allowed the experiment stations, while millions are paid to establish harbors, aid commerce, subsidize railroads and protect the monied interests. California farmers have invested in their 72,000 farms over $800,000,000. They pay to labor over $30,000,000 a year. In 1899 the value of their products was over $118,000,000, which amount has since been largely increased. No other industry comes any where near that of farming, and this industry will continue to grow. The future growth, will to an extent, be determined by the aid granted by the State and nation. Good roads, postal service, irrigation laws, experts in horticulture, live stock and general farming to aid in overcoming pests and developing the resources now at hand, are some of the vital needs. And the farmers can have all these, and more, just as soon as they unite in demanding that men who understand their needs and are in sympathy with them are sent to State and national legislatures to represent them. This would be a good year for the farmers of California to vote for their own interests.

The Genial Candidate.—The farmer never has had the reputation of being much of a politician. The other fellow—the professional politician—fixes the slate, works it through the primaries, through the convention, and then, as the Cincinnati Enquirer expresses it:

The candidate will soon come forth,
And shake you by the hand
And show you what great plans he has
To benefit the land.
And when he gets the place he seeks,
You'll note with mild dismay
The world he promised to reform
Plods on, the same old way.

And the same old graft, with the same high taxes on the same old farm.

All because the farmer persists in letting the politician get in his work in the business end of the campaign; then the dear farmer puts on the collar, walks up like an obedient servant and takes the ticket straight.

This must be qualified a little bit, of course, for it must be admitted that the farmers' club, and farmers individually, got out and did things to candidates in conventions, likewise secured some relief from the last State Legislature in acts which had long been a crying need.

But there is greater need of watchfulness of conventions this year, for there is yet need of much from the coming session of the State Legislature. The election is many months away. The session of the State Legislature is more months away.

Notwithstanding that, it is time for the farmers to consider whether men of his choosing—men of intelligence, integrity and sense shall have the making of laws and appropriations, shall frame and pass laws which shall advance agricultural interests, or whether the other fellow, who will advance race track and harbor-front-grabbing interests shall be elected.

It's a little early yet, but a thought now—and some action—is more effective than a great roar a year from now, when the Legislature is in session and the farmer is getting—left.

The Cultivator is not a partisan paper and can not enter into discussion of partisan affairs, but in the matter of protection—self protection—the farmers may be urged to look to their interests within their own party.

* * *

The State University.—Alfred Holman, editor of the Sacramento Union, has a strong editorial in Monday's paper advocating the removal of the agricultural school from the State University. This is no new suggestion, for it has been brought up before, but the strong points made at this time are worthy of consideration.

As to the needs of the agricultural institution, Mr. Holman says: "Above all, it needs an independent establishment at some other place than Berekeley, where it may have buildings, farms, orchards, gardens and workshops of its own; where it may develop its own spirit and its own atmosphere, and where it may serve as a center and as an inspiration to the best sort of agricultural life."

The needs of our State University last year called for the expenditure of more than $800,000 within the year. This is largely furnished by farm lands of this State and yet an infinitessimal part of it is used in agricultural education. The agricultural buildings are the poorest on the State University grounds and not adapted in the slightest to the needs of an up-to-date agricultural school.

To be sure it is said there are only about fifty students in the agricultural department and we were told recently that there was only one student taking the full agricultural course. This out of a total of 2300 attending the University.

This may be the fault of the young men and women of our farms not choosing to take such a course, but we believe it is because the whole spirit of our State institution is along other than agricultural lines. This doesn't mean necessarily that there is discrimination against the agricultural end of the institution, but from the force of circumstances, with the majority of attendants from cities, the tone and trend of things must be away from agriculture.

We believe the tax payers of the State may well consider what is the best interests as to the education of our youth.

It's possible the Cultivator is wrong, but there are many in various sections of the State who have written or spoken of this to us and we believe a discussion may be opportune.

The Cultivator columns are open.

* * *

Now Pull Together.—The election of R. K. Madsen as president of the Fresno Raisin Growers' Association is a fortunate one and we trust will solidify the raisin interests and bring harmony for the coming year at least. The man who hasn't sense enough to quit when he is beaten and still insist on "rule or ruin" should soon cease to have sufficient following to be a factor.

The Cultivator hasn't sufficient information to say that Mr. Kearney's ideas of management are right or wrong, but sure it is, in co-operative effort majority must rule. The majority is against Kearney, now let all hold up the hands of the management.

* * *

Heavy Blooms on Trees.—The orange groves of Florida never carried such a heavy bloom as they have today. Not even before the freeze were the trees so heavily laden.

The above is from the Chicago Packer in correspondence from Florida. It does not contain great comfort for the California orange grower. This is especially true of the claim that next year's output of Florida oranges—barring climatic interference—will be from 3,000,000 to 4,000,000 boxes.

This doesn't need to disturb the California citrus grower greatly, but it should cause him to seriously consider as to the advisability of not kicking over all existing methods of marketing and precipitating a free for all scramble.

The Citrus Situation...

The Investigation.—The situation in the Fruit Exchange has not cleared materially in the past week. As noted in another place the seventh juror is chosen and it is probable definite results may soon be obtained. This is to be hoped, for the unsettled feeling of all can only have a depressing effect on the market. In fact, the springing of "investigation" in the midst of the season as has been done is generally condemned as probable cause for great losses to growers.

One thing is notable in all this contention, and that is the continued belief of exchange members in the exchange. As to men or methods or "merger," there may, now and then, be contention, but on all sides there is a determination that no amount of onslaught shall disrupt the exchange and destroy the bulwark of the industry, which it has required a dozen years to place in a solid position.

We believe that out of the contention will come a stronger and better condition than has yet prevailed and that the intelligence of the average grower is sufficient to bring this about.

THE CITRUS SITUATION.

Since the last issue of the Cultivator the situation as to the investigation of charges against President Naftzger has changed materially. The six jurors—three chosen by Mr. Naftzger and three by Mr. Kinney, have held two meetings, each being private, and at each there was failure to agree upon the seventh juror. The principal action—so far as given to the public—was to adopt the following:

Rules of Inquiry.—As a general understanding for the Committee of Seven and its power and action in the matter of the charges of Abbot Kinney against A. H. Naftzger, it is agreed:

1. That the charges made by Mr. Kinney in the Saturday Post of March 26, 1904, against Mr. Naftzger is understood to be the only matter or issue to be taken up or heard or considered by the Committee of Seven.

2. That the onus or burden of proving said charges is to be borne by Mr. Kinney.

3. That the Committee of Six shall select the seventh member of the committee. That in selecting the seventh committeeman the committee need not necessarily select a fruit grower or a person directly or indirectly interested in the citrus fruit industry.

4. That the unanimous agreement of the six committeemen in selecting the seventh shall not be necessary, but five of said committee agreeing on such person he shall be such committeeman.

5. In the event of the failure of the committee, after having had two committee meetings after April 16, to agree as above provided on the seventh member, then the seventh may be appointed by Judge Erskine M. Ross.

6. That the committee shall employ a court reporter, who shall make a complete report of all the proceedings and testimony offered. That of the expense of such reporter Mr. Kinney shall pay one-half and Mr. Naftzger shall pay the other half, which same shall be paid at the close of each meeting.

7. That the pay for the seventh committeman, not to exceed $10 per day, shall be paid by the said Kinney and Naftzger, each paying one-half of the same.

This agreement shall abrogate all former agreements and understandings between Mr. Kinney and Mr. Naftzger or their agents or attorneys, as to submitting this matter to such committee, exceping the resolution passed by the Board of Directors of the Southern California Fruit Exchange on April 1, 1904, pertaining to this investigation.

Mr. Naftzger signed these at once, as did Mr. Kinney later.

In the failure to agree upon the seventh juror the matter was referred to Judge Erskine M. Ross, of the United States Circuit Court, of Los Angeles, and he appointed, on last Tuesday, Judge A. W. Hutton of Los Angeles.

Judge Hutton was at one time judge of the Superior Court of Los Angeles county and an eminent attorney, and we understand acceptable to both sides of the controversy.

This makes the Court of Investigation now complete and as follows: Judge J. W. Hutton, Los Angeles, whom, it is generally assumed, will be made chairman; for Mr. Naftzger, J. S. Slauson of Los Angeles, George Frost of Riverside, and S. P. Jennison of Covina; for Mr. Kinney, George L. Mitchell of Claremont, John Burr of Fernando, and C. W. Foote of Los Angeles.

BY J. W. JEFFREY, LOS ANGELES

CONSERVATISM PREVAILING.

As predicted and encouraged by the Cultivator, the level sense of the orange growers is working for the good of the industry. The press is the first to indicate the prevalence of this balancing process. At Pomona, Redlands and Riverside leading growers and the editors are writing strong articles calculated to allay panicky feeling and bring the orchardists, when such is needed, to a saner view of the situation. The strongest point brought out is that the agitators, or the objectors to use a milder term, have not as yet brought forward a single plan in substitution that would appeal to those most directly interested as worthy of even consideration.

One thing may be depended upon. The Exchange, organized through a campaign of the fiercest tribulation and discouragement is not an ephemeral growth. The experience and confidence gained in the several years of success cannot be destroyed in a year. The institution was a growth and not an accretion, and has all the staying qualities coincidental with steady development and slow growth. The Exchange put a quietus upon the commission business, an achievement not within the experience of any similar body of fruit men. During the development of the association idea it became evident that nothing short of complete control within the Exchange could bring about the results sought by every friend of the farmer. On account of the inability of one-half of the growers to see this point, or their failure to assist in bringing it about, the organization of the California Fruit Agency became a necessity in the opinion of those who had stood in the front ranks of co-operative organization. It is now up to those who caused this condition, which culminated one year ago, to find a better way out of the difficulties fathered by their contrariness, or bear the brunt of the results. It is not their place to criticize the effect of their own action.

No better indication of an awakening from the nightmare of the last few weeks is found than in the fact that many of the most panicky are now admitting that a hard winter in the East had some bearing upon the disastrous market conditions. They do not now deny that Florida's 6000 carloads of competing oranges had something to do with depressing the markets, and they listen to the statement that an abundance of cold-storaged apples may have caused some of the trouble. They even revert to the proposition that oranges are among the first fruits to be cut off by the consumer if times are a little stringent or prices of other fruits a little lower. Apples at less per barrel than oranges per box—first class in both cases—are attractive for eating raw, for stewing and for pies.

We find, also, a growing suspicion among the growers that the commission men may be making another desperate effort to command the orange trade, and that if these alleged merchants get control it would mark the finish of the orange industry. The growers now are confronted with the proposition that it is a fight against this element, in which surrender to the solicitors, brokers and other commission getters, means no quarter to the growers, and that nothing possible could be worse than submission—nothing half so bad. These things the orchardists are gravely contemplating, and it is no wonder this sober second thought is working toward conservatism and a determination to meet the difficulties composedly and intelligently until they disappear.

Another point is assuming some importance. The conviction is getting deeper that some cultural deficiency may be making trouble with the orange market; that it is not all of the work to produce enormous crops by stimulating the trees, but that first class fruit must be produced in as high a percentage as control of the whole output is necessary, in order to maintain the supremacy of California oranges with the retailer. The conviction is deepening that even a few thousand carloads of puffy, frail-carrying fruit may work lasting injury to the season's prices. In the face of a panic people are inclined to see only the difficulties that array themselves, or are paraded by interested parties, before them. It is sound logic to go to the basis and work the other way. Blocking a highway or obstructing a railway track is not overcome by looking only at the obstruction. The causes that lead to the placing of these impediments must be considered by the removal of the instigator. The growers are beginning to look for the real causes of the present market depression. The fact that the fruit has been honestly sold by the agency and honeasily accounted for shows that the directors are trying to bring about the best results. Their removal would be like arresting a man for reporting an attempt to wreck a train, for it has been the practice of the agency as it was with the Exchange to supply every item of marketing intelligence to the growers, and time will prove that they have reported correctly. If ever the misfortune of a general disorganization of the present co-operative forces should come over the orange industry all California will rise against whatever influence caused that calamity. It will then be too late for the objectors to cover their retreat, and too late for industrial Southern California to rally from a shock such as it has never even imagined. The growers should hold fast to all that is good, and view with suspicion everything not backed by experience and business sense.

J. L. Paul before the Cucamonga Farmers' Institute.

The welfare and prosperity of the citrus producers therefore means a great deal to this community. It means a great deal to every banker and merchant and mechanic in Southern California. It means a great deal to every farmer or other agricultural or manufacturing producer in Southern California.

* * *

This great industry is today threatened. The growers are suffering and losing and losing until the life of the industry is at stake. Every citizen of Southern California will suffer severely in pocket in the destruction of the industry. It is therefore every man's interest and duty to help save the citrus fruit industry. The question is what are the evils and what are the remedies?

* * *

My observation has taught me that one imperative demand of the orange tree and its fruit is a steady growth.

Brain, Brawn and Bank

Are the winning triumvirate that dictate the planting of orange and lemon trees produced by the San Dimas Citrus Nurseries. Brain discerns their superior qualities; Brawn plants and cultivates them so that they "will grow and go straight;" while Bank takes in the results of their profitable fruitage, for citrus trees grown by us go and grow wherever the orange finds a home.

A Personal Matter

How much "dead wood" (unprofitable trees) have you in your orchard? If you have any—and you are quite sure to have at least a few—would it not pay you to substitute good trees in their places? Think it over; it's a business proposition. You have vacant land in some one of the citrus belts, either in California or elsewhere, which is paying no dividend? Why not plant it to oranges and lemons? On this sort of a proposition we should like to correspond with you. We feel sure we have something to offer which is not only attractive but a money-maker.

He Who Runs May Read

Our monograph, "The Yeays and Nays of Citrus Culture," for it is free if you will send us a request for it, and stating that you saw this announcement in the Cultivator. Let us hear from you; correspondence a pleasure.

The San Dimas Citrus Nurseries

R. M. TEAGUE, Proprietor

San Dimas, Cal. U. S. A.

The Largest Growers of Citrus Trees in the World, and exporters to all countries growing oranges and lemons along commercial lines.

C. H. SESSIONS, ASSOCIATE EDITOR

ENSILAGE FOR DAIRY COWS.

"How ensilage is prepared and the best material to use in its preparation."—Corn is the best material. The best variety to plant for ensilage I have found is Red Cob Ensilage. Seed can be procured from Vail Seed Co., Indianapolis, Ind. Any large growing sort will do. The object is to get a large yield per acre and a variety that ears well. I presume all dairymen know how to prepare land for corn planting, so it is needless for me to describe process, except, instead of planting in hills, plant in drills to about 6 or 8 inches in rows, rows about 3½ feet apart. If planted too thick in drill will not ear well. Corn for ensilage should be grown to the glazed state, roasting ears, and while stalk is still green, cut and run through cutter and put in silo the same day cut in field. Sides of silo should be tight. Silo 25 to 30 feet in height. It will require about 10 acres of good corn to fill a silo 14 feet in diameter, 30 feet high. Ensilage can be made of many materials. sorghum, peas, alfalfa, Kaffir corn, etc., but corn is by far the best. The object of having the height in silo is, the weight of silage in itself packs closely together and excludes air and prevents decay. Silo should be filled in as short a time as possible, within a week at most, and should be spread evenly especially around the sides and well trod down. You cannot pack it in too tight, the more closely packed the better. If from any cause the corn leaves and stock dries out partially, sprinkle down with water the ensilage as it passes into silo, so it will be of the same dampness as green corn. Corn ensilage is by far the cheapest and best feed for milk cows. In addition to this should be fed alfalfa at least once a day for best results. If feeding grain scatter grain over ensilage after it is placed before the cows. The cows will get the greatest good from grain. When fed this way, a greater portion of the grain is raised and ruminated with cud and does not pass through the animal as a great portion of it does, without this necessary process, if fed alone.—C. S. B.

THE ANNUAL CALF CROP.

According to figures published by the National Provisioner, there are 23,000,000 cows of calf bearing age in the United States, and the annual calf crop reaches 16,000,000 head. It is estimated that 5,500,000 of these are slaughtered every year. A larger per cent were killed during the last two years because the cattle herds have retrograded by slaughter, due to the heavy demand for light weight beeves. These figures may prove to be startling in the face of the available official data upon the subject, but the statement is not wide of the mark. It must be remembered that calves are more generally slaughtered locally by farmers and by most of the 60,000 butchers in this country. Then, again, there are more than 1,000 unofficial small stock abattoirs, or shambles, which engage in the production of this kind of meat.

OAK LEAVES FOR LIVE STOCK

A recent bulletin of the California experiment station discusses the value of oak leaves as a forage for various kinds of live stock. It seems that about one-half the entire area of that State is covered by various kinds of oak, growing mostly on the hills and mountains, which are very extensively grazed by stock. The live oaks grow mostly in the foothills and are liked by sheep and goats, but not by horses and cattle. The deciduous oaks of the higher altitudes are liked by nearly all kinds of stock. The value of the various leaves was determined by analysis and comparison with other forage; the nutrition afforded was found to compare very favorably with that of non-leguminous hay, but was noticeably less than that of alfalfa. It is possibly that with sufficient care to so pasture these ranges that no harm will be done to them; but at present they are often unnecessarily trampled, gullied and overfed, while other places are entirely neglected. They are sufficient both in quality and quantity to pasture any stock when drought or other causes make other food inaccessible.

A LEADING JERSEY HERD.

In viewing the Jersey field in Southern California you will always find the Lemonita herd, owned by Mr. C. W. Leffingwell Jr., of Whittier, in the bald head row—clear at the front. It is to his credible distinction that the critical visitor finds the word "capacity" standing out in a living demonstration all over his herd. He has headed for the best to be had and is gradually acquiring the leading representatives of the "Winksettes"—the greatest performing family in Southern California—as well as the richest out-crosses to be found in this vicinity.

Mr. Leffingwell already owned the great cow Winksette's Princess, test 19 lbs., 11 oz., in 7 days, and 473 lbs., 3 oz., in 9 mos. (private) and has her bred to his son of the unequaled Flying Fox. On the first of this month he also purchased from Mr. Jno. A. Campbell, of the La Palma stock farm, one of her tested daughters, having a test of 15 lbs., 9 oz., in 7 days (private), and a daughter of "Regina," by Golden of Biltmore, a calf that we consider the handsomest specimen in the State. They constitute the leading "line" in this region and should give great satisfaction to their owner and firmly fix his herd in the foremost rank among local breeders.

Mr. Leffingwell also purchased from the La Palma stock farm the noted first prize winner, Duke's Sylvia, probably the richest bred cow on the coast. She carrys the blood of Princess 2nd that gave the greatest yield of butter (7-day official test) of any cow of any breed that ever lived, of Oxford Kate, that did a like test on grass only, of Ethleel 2nd, that gave the greatest amount of butter (7-day official test) at 2½ years old of any Jersey, of Princess Honoria, champion heifer, 3 years old, at World's Fair, Chicago, and, indeed pretty near all the balance. Lemonita herd is laying the corner stones for a great structure.

Angelus Herd of Guernseys
FOR SALE
A few Guernsey bull calves from fine dams and sire. Very choice breeding. Price according to quality.
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SHROPSHIRE AND
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Both Sexes For Sale
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For Sale, 2 Registered Two-Year-Old Ayrshire Bulls, brought from the East last fall, both in fine condition. Apply
Rancho Verde Co. Victorville, Cal.

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Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons, KINGSBURG, CAL.

Quinto Herd
California's Premium Herd of Shorthorns
27 Premiums awarded State Fair, 1902
45 Premiums awarded State Fair, 190
Young Stock For Sale
ESTATE OF M. H. HOWARD
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Write for Catalogue

Registered Shorthorn Cattle
Berkshire and Poland China Hogs
Young Stock of Both Sexes For Sale
W. C. MURPHY & BRO.
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BILL TO TAX LIVE STOCK.

Representative Brooks of Colorado has introduced a bill for the purpose of taking the census of the live stock of the country. It provides for a tax of 1 mill on each head of cattle, horses, mules and asses, one-fourth of 1 mill on each head of sheep and goats and one-half of one mill on each hog in the country. The tax is to be collected through a system of stamps similar to the internal revenue method. The idea of a tax therefore is simply to provide funds for gathering and compiling live stock information.

Calves are easily stunted when quite young and never outgrow such setbacks. Feeding cold, sour skim-milk or clabber is responsible for many runty calves. Feed the young calves and pigs sweet-skim milk, warmed to body-heat, and give the sour milk to the chickens and aged hogs.

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If your druggist does not stock our vaccines, order direct from us, we pay all charges.

Jersey Cow Test Expense

By C. W. LEFFINGWELL, JR., Whittier.

Editor California Cultivator: Since my former letter on the subject of butter tests, I have learned from Mr. C. S. Burgess that his appointment by the A. J. C. C. covers the making of seven-day tests only. I have therefore taken steps towards having him appointed to make authenticated yearly fat estimates, and believe that there is no question that he will receive this appointment. Mr. Burgess states that while for seven-day tests, which will take him from home for long periods, he will have to charge $3 per day and expenses, he is willing to make the monthly visits necessary in yearly fat estimates for $2 per day plus expenses, during the first year. Of course this is a much lower figure than Mr. Burgess can afford to give his time for, but he is anxious to encourage the making of such tests and will thus contribute very largely towards the expenses of these tests by doing the work at such a low figure. Even then, where only one cow is tested at a time the expenses will amount to fully $100, and the question will arise as to whether it will pay to incur such a large outlay to give our cows these tests. I wish it could be done much cheaper so that all our cows could be tested. In a large herd several cows can be tested at the same time as cheaply as one, but it is probable that our breeders who have small herds will not feel like starting any cow on such a test unless they are confident that she will make a large butter record, but I think it is safe to say that where the record amounts to 400 lbs. of butter or more, the $100 costs will be well spent, as the value of the cow herself will be enhanced from $50 to $100 and of her calves easily from $25 to $50 a piece. There is no question that while we do not seem to have many cows capable of making enormous seven-day tests, we have a great many capable of making at least 400 lbs. of butter in a year, and we can sell every bull calf from such cows if their capacity is proven by yearly authenticated tests.

We have thus offered to us a method within reason by which to show beyond question what our cows can do. To those who do not feel able to test their cows for one year, the seven-day method is open, and where the cow makes 12 lbs. of butter-fat in the week, the expense will be very light indeed. It behooves all of us, therefore, to test our cows and to base our boasts and our representations in advertising, on proven merit, and it is up to all breeders in Southern California, as it is all over the United States, to "put up or shut up," to test our cows or quit telling how good they are.

It would be very nice to have a cup, or trophy, known as the "Annual Butter-fat Trophy," on which would be engraved each year the name and record of the cow making the highest butter-fat test during the year. It seems to me that there are enough admirers of the Jersey cow in Southern California to get up some such trophy, and to start the ball rolling I will subscribe $25 towards its purchase. I would be glad to have others write their views to the Cultivator on this subject, stating how the idea strikes them. If it meets with favor, perhaps the Board of Directors of our association will take the matter up and ask for subscriptions to buy such a trophy, as the treasury of our association is not strong enough for such an undertaking. To have her name enrolled on such a cup would be a great advertisement to the fortunate cow and to her offspring, and to her owner the winning of this trophy for a year would be a matter of pride, and would bring substantial returns in a financial way.

I am sure that the Cultivator would be glad to publish, monthly, the performance of each cow being run in such a yearly test, and these reports would undoubtedly be read with great interest, not only by Jersey breeders, but by the dairy public in general. Capacity to deliver the goods is what the dairyman wants, and no better way could be found to convince him that the Jersey is a stayer and an all around profitable producer, than the publicity which would be given in a series of tests conducted along the lines suggested. I sincerely hope that our breeders will avail themselves of the opportunity presented to test their cows and to contribute towards the purchase of a suitable trophy.

Trusting that the Cultivator will help this good work along,

* * *

We believe Mr. Leffingwell is entirely correct in the position he takes and should be supported by other members of the association. The number of people "from Misoury" are increasing and Jersey people and all other stock people must prepare to show, by other than mere say-so, the merits of their stock.

LICE ON HOGS.

Three years ago I had thirty-five hogs, all running in pasture, but coming to the hog lot to eat corn and slop twice a day. From some cause all of them got lousy; to get rid of lice my neighbors advised pouring kerosene oil on them, but, having tried that before, I knew it would take all the hair off of them. I notice they had a certain place to rub against the fence. I took coffee sacks, made them three double, nailed several strips against the fence where they rubbed, and saturated heavily with kerosene oil. They rubbed against that, and in a few days they were free from lice, and remained so. I have kept this arrangement in my hog lot for three years for my hogs to rub against, renewing the oil once a week, and my hogs always are free from lice. I am sure from experience this is a sure remedy to prevent hogs from being lousy.—Epitomist.

Secretary Ellis if the Missouri State board says they have reduced milking to a science at the experimental station. The experiments run over a period of nine months. What is known as the Hegelund method of manipulating the udders was practiced after the milk had been drawn. The results of the tests was that only 38 cents was made on nine cows in the two daily milkings. The whole hand was the best to use, leaving the thumb turned out.—Twentieth Century Farmer.

Advertising Column for Members
OF THE
JERSEY BREEDERS ASSOCIATION
OF SOUTHERN CALIFORNIA

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W. Jay Cole, R.D.1, Anaheim, Orange Co., Cal.

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Lemonita Herd

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The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address
James Houston - Duarte, Cal.

CLEANLINESS ALL IMPORTANT.

Prof. Cook, in his department last week, gives, as one of the most important remedies or preventatives of tuberculosis in cattle, cleanliness. All writers on this subject take the same view. They insist that disease is contracted in cows, as well as people, by allowing dirt and filth to accumulate in and about the premises where cows are kept. In regard to the subject of milking, the same rule obtains. If the milker is uncleanly the milk pail becomes a cess pool of filth and disease. Diphtheria germs originate more often from the hand of the milker than they do from the water the cow drinks. The few simple rules of cleanliness applied to milking, if followed closely, will make a marked difference in the germ building facility of the milk bucket.

Always wash the hands after rubbing off the udder and teats of the cow. Never permit the tail of the cow to swash around the milk pail. Never sit down to milk a cow without first cleaning the udder thoroughly.

While on this subject of milking, let it be said, although not exactly following the line of thought on which this article was started, that nothing has been produced which begins to compare with the human hand as a milking machine. Cleanliness and regularity are the first requisites in good milking. Next, quiet and gentleness should be accompanied with quickness. Two milkers, one of them rapid and the other slow (the cow being accustomed to both), will get about the same quantity of milk in any given number of days, but the former will get the more fat. The quicker the milking the richer the milk, if the work is done well and completely; the difference may not be very great, but it is measurable in butter money. Again, two men milking like quantities in like time, from the same cows or animals, giving milk usually just alike, will get different results as to richness, and if they change places the richer milk is secured by the same man. The milk fat or butter fat comes from the cow, but it is the expert milker who gets the most of it. There seems to be an undefined and yet conclusively-proved relation between some milkers and the cows they handle that produces this result. It is certain that change of milkers, manner or time of milking, irregularity, or any disturbance at milking time, may be expected to cause loss of butter fat in the milk. In short, it pays well to have milking done in the very best way, by the very best milkers that can be obtained. A superior milker should be appreciated and retained as persistently as a superior cow; the former is the more difficult to replace.

DAIRY STRIPPINGS.

Experts have figured out that 20 per cent of the butter was lost by the gravity process. The loss on one good cow would be forty pounds a year, which at 20 cents a pound, would be $8 per year.

One of the heads of a dairy school urges his patrons to sow a patch of Canadian peas and oats to feed the cows that supply the station with milk when the pastures are short, saying that forage from such a sowing will furnish the cows with a perfect ration.

CALVES WANTED

I have inquiries for bull calf and heifer calf, and desire to secure good individuals of good breeding. Send price, with rough draft of pedigree with milk yield of dam, to

C. W. Leffingwell, Jr. Whittier, Cal.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

A SUCCESSFUL MAN.

In market-poultry products the best results, that is the most money, come to those who handle the product carefully. I heard a speaker at one of the Farmers' Institutes remark that oranges should be handled as carefully as eggs. Now, I know it would pay to handle eggs as carefully as oranges for I have seen it done here.

A neighbor of mine, an invalid, decided to try egg raising for market, having become convinced that there is money in eggs, he bought a few fowls, hatched several hundred more and started in. As he was a novice in the business he came almost daily to ask my advice, and tell me his experience. He was a very bright, intelligent man and was always a welcome visitor, coming in at the kitchen door. My sisters will appreciate what this means; he would sit down whilst I prepared the meals, or he would come out where I was cleaning brooders or working with the fowls, always with some experience to relate, or advice to ask as to raising or feeding chicks, then, when the eggs began to come freely, the best way of marketing them was our topic. He has since gone to that bourne whence no traveler returneth and is at rest. I know he would not mind my giving his experiences that may help others.

* * *

It would take too long to tell of how he experimented with the different kinds of food, seeking to save the pennies, how he hunted the best places to buy food, studied the analysis of different articles, fed at various times malt sprouts, cracker crumbs, stale bread, table scraps, besides wheat, corn, kaffir corn, rolled barley, etc. Most of these feeds we have discussed in the Cultivator as he and I used to do. His verdict, after a year's trial, was that commercial eggs, that is eggs for market and table purposes, pay well. I was raising fancy stock for breeding and exhibiting. I found my side of the business eminently successful, and I was glad to learn that his was also. I asked him, "How many hens would you require to make a living for yourself, wife and daughter?" He thought a moment and, taking out his notebook, in which everything was carefully and systematically entered, he replied: "Six hundred hens would do it!" This coincided with my ideas and as he had followed my advice in everything I was more than glad to learn it.

* * *

Not only was he careful as to how and where he procured his feed, the same care and neatness was employed in marketing the eggs. He gathered the eggs several times a day, he sorted them according to their color. He had Leghorns, which lay white eggs, and Plymouth Rocks, laying brown eggs. The eggs he put into small card board boxes holding one dozen each. He had the boxes made to order, one thousand of them, costing ten dollars. On the boxes was printed his name and address and "Fresh eggs (guaranteed) for invalids and particular people." When he felt himself fuly equipped for business he went to the California Club, showed the steward his product, asked five cents above the price at which Newberry was selling, and when surprise was expressed at the high price, he explained that he guaranteed the eggs to be not over three days old, and he would replace any egg over that age with a dozen fresh eggs. On these conditions he received a large order to supply the club three times a week with eggs. He still had a few to dispose of and had no difficulty in finding customers in the adjoining blocks for all of his eggs at the same prices, in fact the demand was greater than the supply. He frequently remarked to me that there was a splendid opening for younger, stronger men than he to make a good living in the egg and broiler business.

* * *

Marketing eggs in the right way is a big factor in the success of the business. My friend washed carefully any eggs that were soiled, putting the white eggs by themselves, marking a small "w" on the box, so that he might leave them according to the wishes of his customers, either white or brown eggs. Another point was his care in collecting the eggs; he was absolutely certain of their being fresh. He would never put into the boxes any eggs found under the barn or in stolen nests. He guaranteed them to be fresh, and fresh they were.

He also was prompt in delivering the eggs; rain or shine he managed to send them in at the time agreed upon, and he never had a dissatisfied customer. He was careful to give his hens plenty of green food, when they were not on green grass or alfalfa range, so that the yolks of the eggs were deep orange. Pumpkins will also give this good color, and he fed them only sweet, clean food.

* * *

In hatching the chicks, he had about an even lot of cockerels and pullets and by my advice, as his space was limited, he sold off most of his cockerels as soon as he could detect their sex. This was to allow more space for the pullets and to give him more time in the care of them. Some cockerels, however, escaped and these he afterwards fattened and sold at a good profit.

The Los Angeles egg market has steadily risen during the nine years of my experience here; eggs are shipped in from as far away as Kansas City, and "invalids and particular people" are not only willing to give five cents above the market price, but they are simply craving for fresh eggs. Eggs are as good as cash. Restaurants, hotels, grocery stores, are all willing to give market price and private customers are ready to give more. A good business, and a pleasant living can be made here in the egg business by any one using the same care and promtness as my good and lamented friend.

* * *

Next week I will tell our readers how my friend fattened and marketed his spare cockerels. I was brought up in France and there I learned the proper way to fatten and market fowls, for undoubtedly the French are masters of this art.

Armour and Co. and some of our other large packers are now following the

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The 1904 Catalogue B

Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address

Must Hatch Incubator Co., PETALUMA CAL.

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Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.

WEST COAST STOCK FOOD CO., PASADENA, CAL.

THE GOOD FOUR

I have mated up for breeding purposes 9 pens White Minorcas, 3 pens White Wyandottes, 4 pens White Plymouth Rocks, 2 pens White Leghorns. These are found by experience to be the best varieties for California, They are ranch raised, healthy and number one. If you would like their eggs, write to

EGGS, $1.50 PER SETTING — S. W. MORGAN, SUNNYSIDE, CAL

INDIAN RUNNER DUCKS

—AND—

WHITE PLYMOUTH ROCKS

Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.

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PURE BRED WHITE LEGHORNS

$1 00 per 13—$4.00 per 100

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CARRINGTON'S WHITE LEGHORNS

Eggs for hatching from PRIZE WINNING and utility bred stock, by the sitting, 100 or 1000, also breeding stock of all ages for sale. Write for folder giving prize record to

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Standard Bred

Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
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Only Birds That Have

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are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

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Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

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Breeds 14 varieties of land and water fowls, including Blue Andalusians, White and Brown Leghorns, White, Buff and Barred Rocks, Black Minorcas, Silver Spangled Hamburgs, Guineas, Bronze Turkeys, Pekin Ducks, Light Brahmas, Buff Cochin Bantams, Buff Orpingtons.

Settings from $1 to $3 Each, for Prize and High Bred Stock.

Place your orders at once. First come, first served.

DORKINGS Oldest known fowl, parent of Orpingtons; England's utility breed, fine layers. Eggs in April $2.00, express prepaid. Buff Cochins, Golden Polish also. Never defeated in the shows. Harry McIntire, 27th & D, San Diego, Cal.

Golden Laced Wyandottes

Eggs of Ideal Strain. 15 Eggs, $1.00

Mrs. Frank Wood, R.F.D.2, Compton, Cal.

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.

LOUIS S. FLETCHER, ANAHEIM, CAL.

French methods and are making a success of it, and why not we do the same?

ANSWERS TO QUESTIONS.

Pigeons: Editor Cultivator—Through the columns of the Cultivator please inform me where I can get a book on raising pigeons.—A Subscriber.

There are two books, "The Practical Pigeon Book," and "Money in Squabs." Both are published by the Poultry-keeper Publishing Co., Quincy, Illinois. 50 cts. each.

* * *

Turkeys: Editor Cultivator—Please answer through your wonderful paper the following questions: What causes young turkeys to become blind; also weak in the legs after about three weeks old? I follow your directions very closely under your column on turkey raising and am at a loss to know the cause.—T. K. M., Banning.

Probably it is caused by lice or mites. Those are the usual causes for the symptoms you mention. Examine them carefully, likewise the mother and rub well into their heads fresh buhach. The buhach must be quite fresh; this will kill the lice and you must do it every five days. If the hen has lice, powder her thoroughly and keep her for an hour away from the poults. If you have a chicken hen for mother, keep the coop darkened so she will not scratch, get nervous and move around; the poults need to be kept very quiet at first. The hen turkey is quiet and deliberate in her movements and will not over tire the little poults, but a chicken hen will wear them out and for a few days should be confined in a dark or semi-dark coop to keep her quiet. Your little poults may have been hatched from eggs of immature turkeys, or in-bred turkeys. There is very little hope for a sick turkey. The only plan is by good care to prevent their getting sick.

* * *

Feather Eating: Editor Cultivator—Will you kindly tell me what can be done to prevent chickens picking the feathers off each other. My Plymouth Rocks persist in undressing each other. I am feeding shell, lime, meat scraps, ground bone, Coulson's egg food and green alfalfa and grass, but still they are not satisfied. If you can help me out in this matter, I will appreciate it. —J. T. W. Patton.

Feather pulling is one of the vices acquired most frequently in the spring or molting time by fowls with an abnormal appetite. If you watch the fowls you will find that probably only one or two are the guilty ones. These should be removed from the rest of the flock and either killed or cured of the vice. Various causes have been assigned for this habit, the most probable being idleness, indigestion, or parasites, such as the feather mite, the sarcoptes laevis. For idleness make the fowls scratch in a scratching pen for their food, or give them a free range, for indigestion give less meat; give charcoal ground either in the mash or in the grit box, and a little Epsom salts in the drinking water. And for the mites grease the parts affected with carbolic salve or carbolated vaseline; get the druggist to add some more carbolic acid to the latter to make it strong enough to kill the mites.

I have not used the "bit" but have seen cuts in some of the poultry papers of a wire bit to be put in the mouth of a feather pulling fowl to cure it of the habit. You might try one. But, if the fowl is not very valuable, the hatchet is the best cure, and I think you will find, by close observation, that only one or possibly two, are doing the mischief.

* * *

Wyandottes and Rocks—I am preparing to start a poultry business on a small scale and enlarge as I grow accustomed to the work. I have taken a fancy to the Buff and White Plymouth Rocks and Wyandottes, but as I am inexperienced in the business and wish to start right I write to ask your candid advice.

1. Are Wyandottes as good a market fowl as the Rocks and are they not better layers?

2. Are the buff or the white best for market?

3. Will either of the breeds mentioned mature sufficiently in three months for good broilers?

4. About what age do they lay?

5. What is a good yearly average of eggs per hen?—C. L. N.

1. Wyandottes are an excellent market fowl. The Standard gives their weight at one pound less than the Rocks. I have found the White Rocks better layers than the Wyandottes, but it very much depends upon whether that certain strain has been "bred to lay."

2. White are the best fowls for market.

3. Either breed, if properly fed, will make a good broiler, weighing a pound and a half at from eight to ten weeks.

4. At from five to six months if properly fed and grown.

5. Ten dozen eggs per fowl is considered a good yearly average. Pullets or hens "bred to lay" will of course do better.

THE LOSS OF CHICKS.

The greatest loss of chicks occurs from diseases of the bowels. When this appears the cause is attributed to the food, and the attempt is made to save the chicks by all manner of feeding, but the real cause of bowl disease is usually cold on the bowels, due to lack of warmth. This cold does not come from prolonged exposure of from lack of warmth during the day, but from the failure to supply warmth at night, at which time the chicks are quiet and do not have the aid of exercise. A single night's exposure or even an hour to a temperature that will cause the chicks to crowd will bring on bowel disease. When the whole brood is attacked by it the chances of saving the chicks are slim, as they seldom recover, or if they pass a critical stage of difficulty they seldom amount to anything afterward. In raising chicks for broilers, therefore, the main condition is warmth, it being essential for young chicks even in summer, as sometimes there are cool nights.

WHEAT FOR HENS.

Sow a little wheat for the stomach's sake; that is, the stomach or gizzard of the hens. By throwing wheat among straw in the winter and letting the hens scratch for it you provoke exercise and furnish the right variety of feed. And by using just plain common sense it will be clear that threshing the wheat is money and labor thrown away. It takes time for the hens to thresh it, but what is a hen's time good for? The beauty of it is that the time and labor of the hen in picking out the kernels is helpful to her, and the egg basket will show it.

"Has she much of a voice?"
"A great deal too much."
"They told me she had a fine singing voice."
"I'm referring to her talking voice."
"Are you acquainted with her?"
"Well, yes. I'm her husband."—Cleveland Plaindealer.

EGGS THAT TRAVEL.

A New York broker, says the Produce News, recently received a car of California eggs, 400 cases, which he easily sold at 30c a dozen. Strictly speaking, these were not California eggs. They were bought in Kansas in the spring, shipped to the coast and stored. The New York prices were so attractive that the eggs were shipped first to Chicago and then to New York. The freight on these eggs was quite a little item, amounting to $424. This hardly cuts much figure when it is understood that the 400 cases brought $3600. Eggs are breaking all records this year. Getting $3600 for a car of storage eggs is something remarkable. It would be interesting to know if these eggs reached consumers as "strictly fresh," and what their quality proved to be.

Get fifteen cents' worth of crude petroleum and ten cents' worth of carbolic acid, mix them, and you have for twenty-five cents enough lice killer to paint all the roosts, nest boxes, etc., on the place.

Use a little of it, but not much of it, in the brood coops.

Do the painting in the morning, else you will have smeared feathers and smeared eggs, which will neither do to use or set.

Slake stone lime with just enough boiling water to cause it to crumble down fine, after it is thoroughly slaked add boiling water to make a half pail full. Add to this a quart of thin flour and rice paste and a teacupful of carbolic acid, stir it well, and then fill the pail full with more boiling water. Apply this wash thoroughly with a brush throughout the poultry quarters. Sprinkle the floors after cleaning them, with a strong solution of water and carbolic acid. Then sprinkle the floors until they are white with fine air-slacked lime. If there are lice in the poultry house by all means apply the whitewash as hot as possible.—American Farmer.

AGENTS WANTED

Our scales make a good line with specialties implements, machinery, mill supplies, nursery stock, separators, foods, etc. Fine catalogue, liberal contract, no expense, no experience. Write for full particulars. Act Quick
OSGOOD SCALE CO., Binghampton, N. Y.
203 Central Street

INDIAN RUNNER DUCKS,

DUCKLINGS AND EGGS FOR SALE FROM CHOICEST STRAINS, MATED BY AN EXPERT.

W. K. Stewart Covina, Cal.

HEAVY LAYING STRAINS

Business White Wyandottes and Brown Leghorns, best to lay eggs. Eggs, $1.50 for 15. Write for useful circular.
HEMET POULTRY YARDS HEMET, CAL.

Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

James Hague, Proprietor
350 College St., Oakland, Cal.

EGGS FOR SALE

From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.
H. S. THOMPSON, 125 W. Ave. 54, Los Angeles

Emery's Pure Meat Meal

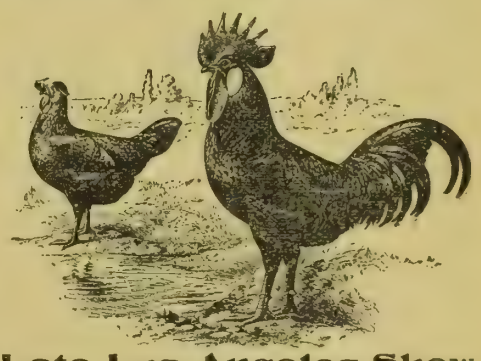
Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks



Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

SEND FOR NEW ILLUSTRATED CIRCULAR GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 6435 **Los Angeles, Cal.**

RANCH: 2½ Miles South of the University Station, on Vermont Ave.
Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena
All Stock is Kept at Rauch Phone: Sunset, State 82

KILLING AND PLUCKING POULTRY.

A great many people who are in the poultry business and who make a reasonable success of raising chickens do not know how to prepare their poultry for the market when they wish to kill and pluck the birds. A writer of experience in the Farm and Floral World gives some practical suggestions on preparation of fowls for the market, which may be followed with good results. The Cultivator editress has heretofore made some suggestions along this line, possibly not so full as are contained in the following extract:

"It is well to make the bird fast for twelve hours or more before it is killed, in order that its crop might be quite empty and the other organs as free as possible from excrementitious substances. It is generally conceded that the best way to kill a bird is to sever the main artery in the roof of the mouth. When this is done, the bird quickly bleeds to death. As soon as cut, it should be hung head down, to allow the blood to run out of the body. Immediately after the bird is dead, and before the animal heat has left the body, the feathers should be plucked out, pains being taken to remove all the pinfeathers and not to tear the skin. The feathers come out more easily if the carcass is put in boiling water for a few minutes; but this method, although very common, injures the wholesome look of the skin and it is believed makes the flesh decompose more quickly. Dry picking is, therefore, far preferable and should be insisted on.

"If a bird is to be kept before using, it should be put in a cool place to drive out the animal heat, which if left in might hasten decomposition. Some poultrymen put the plucked birds into cold water, which serves the double purpose of cooling them and of making them look plumper. There may be no objection to it if the water is clear and they are left in only a few minutes, but if they are allowed to soak until they swell beyond their natural size, it is certainly fraudulent and probably injurious. A still more objectionable way of plumping birds is by blowing them up. This is bad enough when a bellows is used, but when, as it often the case, the dresser blows directly from his mouth, it is disgusting and dangerous.

"In warm regions chickens are often prepared for the table just after they are killed, a practice almost unknown in the North. In that case the bird is cooked before the animal heat has left the body, and the flavor of the meat differs somewhat from that of a bird which has been kept. If the bird is not to be cooked immediately after it is killed, it should be kept twelve hours or more before it is used. After the animal heat leaves the body a change known as rigor mortis sets in, which stiffens the flesh and tendons until they become quite hard. After some hours, however, this stiffness gradually passes off, probably as the result of the growth of micro organisms or the action of natural ferments in the flesh. The first noticeable effect is the softening of the flesh and tendons, which increases for some days. Other changes also take place, which after a time, when they become more apparent, we call decomposition, or putrefaction. These in their later stages are accompanied by a characteristic odor and a disagreeable acid taste. The younger the animal the more rapidly does this decomposition set in. Pheasants, wild duck and some other wild birds are by many considered best for table use as this taint begins to appear and give the meat a so-called "gamey" quality; but no animal flesh should be eaten after the taint becomes strong, for it is often the herald of ptomaines, very poisonous substances, sometimes developed by micro-organisms.

"In a fresh bird the feet feel moist, soft and limber, and if dressed with the head on, the eyes look bright and full. As it becomes stale, the eyes shrink and the feet dry and harden; when too stale, i. e., when decomposition is well under way, the body turns dark and greenish. Cold-storage birds are commonly packed so closely that the wings and legs remain pressed to the body even after the birds have been unpacked some time. They can usually be distinguished by this squeezed look from fresh birds, which should lie or hang in natural position.

"One of the commonest ways of testing the age of dressed poultry is to take the end of the breastbone farthest from the head between thumb and finger and attempt to bend it to one side. In a very young bird, say a "broiler" chicken or a green goose, it will be easily bent, like the cartilage in the human ear; in a bird a year or so old it will be brittle, and in an old bird tough and hard to bend or break. Unfortunately, tricky dealers sometimes break the end of the breastbone before exhibiting the bird, and thus render the test worthless. If the feet are left on the carcass, they furnish a test of age. In a young bird they are soft and smooth, becoming hard and rough as the bird grows older. The claws are short and sharp in a young bird, becoming longer and blunter with age and use. The spur above the foot is also to be observed; when the bird is very young, like a "broiler," it is hardly apparent; a few months later it is long, but straight; in a mature bird it is larger still and crooked at the end. It is more developed in males than in females and capons.

"Turkeys up to a year old are said to have black feet, which grow pink up to three years old, and then turn gradually gray and dull.

"In ducks and geese the flexibility of the windpipe is a mark of youth. When the bird is young it can be easily squeezed and moved; later it grows rigid and fixed.

"Some of the dealers in fancy and out-of-season goods handle more or less poultry which is only partly plucked, the neck, tail and wing feathers being left, probably to give the bird a better appearance. However, an unplucked chicken so seldom reaches the average American market that feather and comb tests are of little value here. More commonly the wings of turkeys, ducks and geese are left unplucked and furnish a clew to the age. If the tips of the quills at the end of the wing are sharply pointed, the bird is probably young; the blunter they are the older the bird."

A hen's egg appears to be a frail thing, and yet it will stand an air pressure of about 525 pounds to the square inch. My authority for this statement may be found in a scientific journal.—Visalia Delta.

"THE BLUE GRANGE" ANDALUSIANS

Are still in the lead. They cannot be beaten for their egg record, style or beauty. Won 1st and 2nd on pens, 1st and 2nd on hens, 1st and 3rd on cockerels. 1st on pullet, 2nd on cock at Los Angeles show. Eggs for hatching from these prize winners, $2 and $3 per 15; also from grand pen of stock imported direct from Newton Cosh, the male being son of the Boston winner of 1903, also of the Madison Square Garden Show, 1904. $5 per 15.

MRS. GRIFFITH
3111 WALTON AVE. LOS ANGELES

Black MINORCAS White
EGG WHITE EGGS
80 to 90 per cent fertile; 75 per cent guaranteed. White Minorcas $1.50 per 14, Black Minorcas $1.00 per 14; $6.00 per 100.

CHICKS FOR SALE AT 15 CENTS EACH
MRS. F. T. HUNGERFORD, 202 S. Grand Ave. Los Angeles, Cal.
"Willard" Poultry Yards Home Phone 3534

$5.00 PER 100
BARRED ROCK EGGS
Choice mating, $1.50 per 13
BUFF LEGHORN EGGS
$1.50 per 13. Prize winning stock
LINDGREN & SONS KINGSBURG, CAL.

Eggs for Hatching
from Mrs. A. Basley's strain of
White Plymouth Rocks
$2.50 per setting of 13
Mrs. G. C. Clark Fullerton, Cal.

NATURAL HEN Incubators and Brooders
Send 10 cents for our 96-page book entitled Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16-page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

Barred Plymouth Rock Eggs for Hatching
1st pen, imported male bird, $1.50 per 15
2nd pen, standard bred fowls, $1.00 per 15
MRS. Z. A. WOLLAM,
W. CENTRAL AVE. RIVERSIDE, CAL.

BARRED PLYMOUTH ROCKS
THOMPSON'S RINGLET STRAIN
Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10 00 per hundred.
A. A. Clapp - Alhambra, Cal.

Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
F. E. Seaman, Upland, Cal

Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2 50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
757 N. LAKE AVE., PASADENA, CAL.

EGGS FOR HATCHING
From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
T. E. Mills - Lordsburg, Cal.

SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904
There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders, and all kinds of Poultry Supplies. In fact, it is an encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
C. C. SHOEMAKER, Box 718, - Freeport, Ill.

Largest Poultry Supply House in the United States
YOU DON'T NEED TO
Stay Up at Night
In order to have successful hatches when using the
IMPROVED
LOS ANGELES
INCUBATORS
Self Regulating Non Moisture
Self Ventilating Most Economical
FREE—1904 Catalogue—Free
Darling's Genuine Beef Scraps
HENRY ALBERS - 315 South Main Street Los Angeles, Cal.

There May be Other Chick Feeds, but People Do Not Want Them
I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.
The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.
Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.
GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

TURKEY CULTURE.

Mrs. J. E. Gray, in Poultry Success, answers the questions often asked by novices in turkey raising, as to the number a beginner should keep and how he, or she, should commence to build up a flock. She says: The question how to begin in turkey culture, and how many should the new beginner keep, is an important one.

The Standard recognizes six distinct breeds, namely, the Bronze, Narragansett, Buff, Slate, White and Black. The beginner is supposed to have made a choice of some one of these breeds, and as this is to be the foundation upon which to build a family of fowls or "strain" as it were, let us make as intelligent a beginning as possible. For those of today who are breeding fowls of any kind intellectually and scientifically are those who have first class exhibition birds for sale and are making a success of it.

It is not a difficult matter today to secure proper material upon which to build this foundation, and we should select the very best at our command.

The male bird should be our first consideration. He should be as nearly a perfect a representative of the breed we are intending to keep as possible. Every point in shape, size, color and marking, should be considered. Careful attention should be given in shape and size, for after all, size in turkeys seems to be the most important point. For in your advertising you will find your customers are looking for this one special point.

But in your eagerness to obtain size, proper color and markings in this male should not be overlooked, as the offsprings derive their color largely from the sire.

In selecting females, let them be as nearly the same type as the male and every point should be as carefully considered. This male and female should be of different flocks.

Our advice to the beginner who has had no experience in turkey culture whatever, is that a trio would be enough to begin.

It sometimes happens by giving the poults good care and attention one raises more young turkeys with two hens than at other times with more hens, and being a little negligent in caring for the poults. Our first experience was with a trio from which we raised 45 young turkeys to maturity. We cannot remember doing equally as well since with more hens.

Perhaps the price of a trio of turkeys as we have described may seem to the beginner a little exorbitant, but if they can find just what they are looking for, they can well afford to pay a reasonable price. Or, if one doesn't feel financially able to secure a first-class trio, it is a little slower, but just as sure, perhaps, to obtain a sitting of eggs from some responsible breeder, which will give a start in pure bred stock. If one is fortunate enough to raise four or five from this sitting, the next year the best young tom can be reserved, the pullets sold to other breeders and hens bought of another flock. We say hens, for our observations are that well matured stock gives best results.

From yearling toms of medium weight, mated to hens not over fat, from two to three years old will give strong, vigorous, large-boned, well-marked poults. Possibly pullets may lay more eggs but their offsprings will never be as large nor as strong.

"Breathes there a man with soul so dead
Who never to himself hath said,
As on his homeward way he turned:
'Now, I forgot them things—I'll be durned.' "

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

After many weeks' delay we have a copy of this new book on our desk, and have sent many copies out to subscribers. We believe every poultry raiser (whether new or old timer at the business) in California can obtain many times the cost of the book in practical hints. The book contains the experiences of five years' work in the poultry yard, contending with conditions as they obtain in California.

The price of the book is $1.25 postpaid. It is cloth bound, profusely illustrated, and contains abont 125 pages. We would like next week to send at least 100 copies to Cultivator poultry raisers. Send us your orders.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

SPECIAL FATTENING OF GEESE—FOIE GRAS.

The most extreme measure of artificial fattening is employed with geese whose livers are to be used for the delicacy known as "foi gras (fat liver). This art of fattening geese until fatty infiltration of the liver has set in and that organ weighs from two and a half to three pounds is practiced on a large scale about Strasburg and to a less extent about Toulouse and elsewhere. The birds are usually confined in small, dark cages where they can move only a few inches, and are fed two or three times a day, commonly with all the ground maize or wheat flour paste they can be made to eat. When they have become very fat, usually at the end of about three weeks, they are killed and the livers removed.

The livers, which are perhaps no more abnormal than the flesh of an overfat hog, commonly appear in our markets in jars or tins in three distinct forms. Foie gras au naturel, pate de foie gras (by far the most popular), and puree de foie gras. The foie gras au naturel is simply the liver preserved without any dressing. The pates are made of large pieces of the liver, cooked and dressed with truffles and other condiments. These pieces are fitted into cans by trimming off the edges, and are covered with melted goose fat or suet. Many persons find the flavor of the goose fat too strong and prefer the suet. The trimmings of the liver in the pates are preserved with truffles, etc., and sold as puree de foie gras.

MARKS OF GOOD POULTRY.

Nothing is more important to the average buyer of poultry than to know how to distinguish between good and bad, young and old birds, A good, fresh bird shows a well-rounded form with neat compact legs and no sharp or bony angles on the breast, indicating a lack of tender white meat. The skin should be a clear color (yellow being preferred in the American market) and free from blotches and pinfeathers.

SALT FOR CHOLERA.

At a meeting of the Kansas Poultry association, E. Harrington said: "This fall Mrs. Harrington discovered that the cholera had appeared among her chickens. I had heard somewhere that there is nothing to beat salt as a disinfectant. I had the hired man clean the hen house as clean as he could, wash it out thoroughly with just as strong brine as he could make, and fill every crack and crevice with the brine. He did so, and we havn't lost a hen since. I tried the same thing on my hogs when the cholera broke out among them and am satisfied that I saved a lot of them, and prevented a further spread of the disease.

NOW IS THE TIME TO HATCH
FIRST-CLASS EGGS FOR SETTING, $1.50 FOR 13
S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS
Eleanore Poultry Ranch
M. E. BROWN, Prop. 1½ Miles East of Glendale. P. O. Address, Garvanza
ALL STOCK BRED FOR SIZE AND EGG PRODUCTION ONLY

White Plymouth Rocks

If you are after first-class White Rock eggs, you ought to see my stock before buying. If they don't suit, don't buy. Send for a circular if you cannot call. Closed Sundays

Chas. T. Youngken
151 East Ave. 55 Los Angeles, Cal.

Darling's High Protein
BEEF SCRAPS
Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.

Farmers and Stockmen
All Use
Prussian Stock Food
We Carry a Full and Complete Line
GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

First-Class Incubators and Brooders

The "PACIFIC" is the most sensible Egg Hatching Machine yet invented and does its work perfectly without a nurse or night- watch. Send 4c for my 70-page Catalog No. 2. It tells all about them and has other practical matter on poultry raising, poultry houses, etc,, which makes the book worth a $ to anyone who keeps a dozen fowls.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec- 16, '03.
Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yonrs truly,
Mrs. A. N. Zumwalt.

Address **Wm. B. Dean,**
929 E. 25th St. Los Angeles, Cal.

Winning White Plymouth Rocks

Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART VII.

Situated at about 4 miles from Tomales, Marin County, and 15 miles from Petaluma, is a station that is called Fallon, or Fallon's Creamery. In this issue we show photographs of Mr. James Fallon and Mr. Fallon's residence.

Now, in the past six chapters we have shown up some pretty good sized poultry farms, but we will drop a hint to what is coming when we say that situated within a few miles of Fallon, there are some poultry farms that contain more poultry than any yet described, who purchase their supplies at Fallon.

Mr. Fallon has not got as many thousand hens as some of the rest of his neighbors, but we will tell you about James Fallon's place, first, because the place is named after Mr. Fallon. Now, at Fallon's there is a creamery, one of the largest in Marin County. Fallon's creamery is the terminal of the North Shore railroad and some of the poultrymen near here purchase Coulson's Food by the carload.

Mr. Fallon is another of the up-to-date men who prefer to keep abreast of the times, and Mr. Fallon was one of the first in that vicinity to see the benefits of feeding his poultry on Coulson's Balanced Rations. The Fallon Cholera Cure in the drinking water and Coulson's No. 3 Condition Powders in the food.

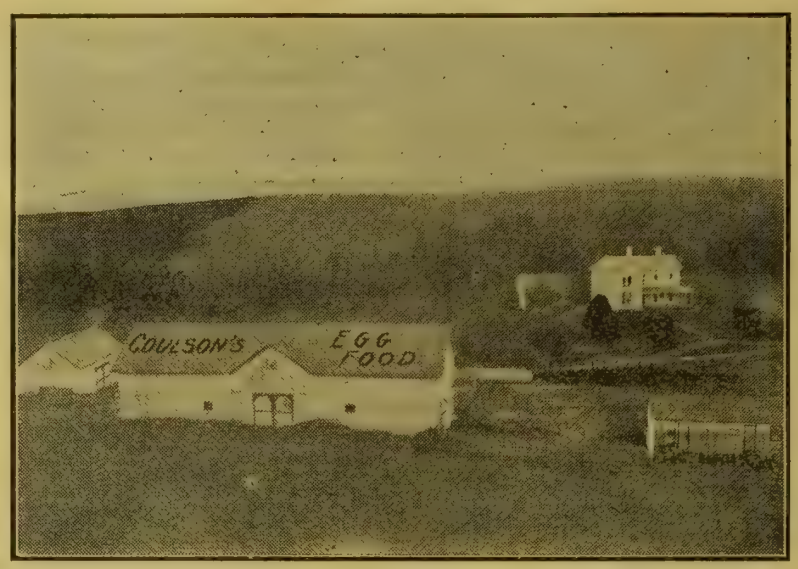
Fallon, March 8, 1904.

Mr. A. R. Coulson, Petaluma, Cal.

Dear Sir:—I am using your chick food and must say that I consider it far superior to any feed I have used heretofore, as my chicks are much larger than ever before at 4 weeks and are starting to roost.

I have about 2700 chicks and will say that I have not lost over 12 through sickness. I have no droopy chicks, and they are feathering out finely and the feathers are not strangly, but are compact and are of a uniform length and they are always ready for their meal of Coulson's Chick Food. I have the finest lot of chicks I ever had, and give Coulson's Chick Food due credit for it.

J. FALLON.



Birds' eye view of James Fallon's place at Fallons, Marin County. Coulson's Egg Food and Coulson's Chick Food are fed exclusively here.

Mr. Fallon says: "To feed my 700 hens it only takes ½ sack Coulson's Egg Food a day or about 11 cents worth of it will feed 100 hens, so that it is really cheaper than common feed, for when I feed common feed it takes so much more of it; besides by feeding Coulson's Egg Food the hens lay from 30 to 35 dozen eggs a day, where they only lay about 18 dozen when fed on common feed.

About Coulson's Chick Food I will say that out of 2700 little chicks that I have been feeding Coulson's Chick Food I did not lose over 12 from sickness and at the age of 4 weeks they went on the roost, and they are all feathered out evenly and compact and they are as nice a looking lot of chicks as I ever raised. Coulson's Chick Food is alright."

You will note that Mr. Fallon says it only takes about ½ sack of Coulson's Egg Food for 700 hens, so it only costs him about 11 cents to feed 100 hens of Coulson's Egg Food, as there being so much of meat, bone and blood meal in this food that it does not take so much of it and the hens do not eat so much whole wheat as Coulson's Egg Food is so rich it is more substantial.

There are some poultrymen who take a long time to make up their minds to feed their hens on Coulson's Egg Food, but after a while they will give it a trial and then they will wonder why it was that they did not start to feed it a long time ago, for it stands to reason that the Egg Food, being one-fifth animal foods, it is much more concentrated and does not take so much of it, consequently it is actually cheaper than comon feed and gives a whole lot better results.

Wheat, middlings, etc., contain about 11 per cent protein. It takes 16 per cent for the egg. Coulson's Egg Food contains about 20 per cent protein and it is digestible protein, thus supplying sufficient for the egg and allowing a margin for body maintenance.

Price of Coulson's Balanced Ration Egg Food at Petaluma, $34 per ton or $1.55 a sack.

Price of Coulson's Chick Food $2.20 a sack or $45 per ton at Petaluma. Price in other towns will be more, according to freight. Ask for it at the feed stores.

Mr. Fallon has 70 laying hens that he feeds on Coulson's Balanced Ration Egg Food. Mr. Fallon says: "When I commenced feeding Coulson's Egg Food I was only getting about 200 eggs a day, but by feeding them Coulson's Balanced Ration Egg Food they have increased to nearly 450 eggs a day.

"It only takes ½ sack of Coulson's food a day to feed the 700 hens and I consider it better and cheaper than feeding common feeds. I am perpectly satisfied with Coulson's Egg Food for laying hens and can recommend it as it is a good rich feed and gives splendid results. I shall want another load when this is gone. J. FALLON."

A six-horse load of Coulson's Food (35 sacks of Coulson's Chick Food for little chicks and 35 sacks of Coulson's Egg Food for hens), about three and one-half tons going to James Fallon's Poultry Farm.

lon's Poultry and Dairy Farm comprises about 300 acres, and they milk about 50 cows.

At the present time Mr. Fallon has 700 laying hens. Last year when the cholera was killing off so many hens in that country, Mr. Fallon prevented the cholera with getting away with his laying hens by thoroughly disinfecting and spraying the houses every day with Phenolene and putting Coulson's

A. R. Coulson Co.
Petaluma, California

(To be continued.)

General Agriculture

SACRAMENTO INSTITUTE.

The Farmers' Institute at Sacramento last Friday and Saturday, was in many respects the best held by the State University this year. The sessions were held in the Capitol building and among the speakers were Profs. Wheeler, Wickson, Hilgard, Twight, Majors, Woodworth and Mead from the University, and Judge P. J. Shields, A. R. Sprague and N Ellery. Prof. Hilgard in discussing agricultural education, said that farming was becoming a profession. He thought California ought to have Agricultural High Schools. In Wisconsin they teach agriculture in the schools. It is done all over Europe. It does not lower the regular curriculum but teaches what should be known to youth about farming. Agricultural High Schools would be the best form for primary agricultural teaching.

Prof. Shaw in discussing the sugar beet in California, quoted figures to prove the value of the industry to the United States and especially California. The removal of the bounty on sugar in Europe would decrease our imports and enable us to produce all we consume. California can and should produce sugar in unlimited quantities, for sugar in the beet is stored up sunshine and in that we abound. N. Ellery of the State highway commission read a paper on government aid in road building. He said: The cost of hauling products on country roads in one year in the United States is $946,000,000, while the cost of railroad hauls to the people is but $730,000,000. So the country people pay a heavy tax for transportation. If the road rate could be reduced to 10 cents a ton a mile the saving to the ruralists would be $600,000,000.

Prof. Mead gave a very extended description of his trip to the valley of the Po, Italy, last summer to study irrigation. Comparing what he there saw and studied, he reached the conclusion that in no other State or section are the possibilities so great for irrigation, the climate so diversified or the productive advantages so great as in the valley of the Sacramento. On the same lands we grow on the same acre the products of the south and the north and the other zones. We are assured of successful harvests, as against the menace of untimely rains, and at the same time in contour of country and systems of rivers and their tributaries we possess advantages which, when our lowlands are dyked and reclaimed and our irrigation canals put in, will make the Sacramento Valley the wonder of the world.

GOOD ROADS BILL.

Lattimer good roads bill will be reported favorably by the Senate committee on Agriculture early in the next session of Congress. An agreement to that effect was reached at a meeting of that committee today. It was decided to amend the bill by fixing at $100,000 the minimum appropriation which each State shall receive first, the balance of the apropriation to be shared by each State in proportion to its population.

Provision was made, however, that no city shall be credited with more than 10,000 population.

USES OF UNFERMENTED GRAPE JUICE.

California has become a large producer of grape juice. In the Central and southern portions especially, the industry has grown to be lucrative, and the public has come to look upon unfermented grape juice as a necessary article of diet when weak stomachs and indigestion in its many forms exist.

"The uses of unfermented grape juice," says a medical authority, "are many. It is used in sickness, convalescence and good health; as a preventive, restorative and cure; by the young, by persons in the prime of life and those in old age. It is used in churches, for sacramental purposes; at soda fountains, as a cool and refreshing drink; in homes, at hotels and restaurants, as a food, as a drink, as a dessert, and in many other ways. When properly prepared, unfermented grape juice can be made to please the eye by its color and attractive appearance, the sense of smell by its aroma or fragrance, the palate by its pleasant flavor.

It is food and drink, refreshment and nourishment, all in one. Not a by-product, but made from fruit going to waste—one of the blessings given us, that some are too careless, others too ignorant, to make use of.

The effects of unfermented grape juice on the human system have been studied for a number of years, especially at the so-called grape cures so long in vogue in Europe. A smaller number of investigations have been made in laboratories.

It is very generally claimed that using a reasonably large amount of unfermented grape juice with an otherwise suitable mixed diet, is beneficial, and that digestion is improved, intestinal fermentation diminished, and that gains in body weight result. It should not be forgotten that the abundant diet and hygenic methods of living practiced at the grape cures play all important part, but even taking all this into account, it seems fair to conclude that some of the good results can be directly attributed to the unfermented grape juice.

Grape juice contains the same kinds of nutrients as other foods. The percentage of water is high, and thus it resembles liquid foods more closely than solid foods. It is sometimes compared with milk, the most common liquid food. It contains less water than milk, more carbohydrates, and less protein, fat and ash. Carbohydrates, largely present in the form of sugar, are the principal nutritive ingredients. It is evident, therefore, that grape juice is essentially an energy-yielding food, and may help the body to become fatter, though it can not materially assist in building nitrogenous tissue. Sugars in moderate amounts are wholesome foods, and grape juice offers such material in a reasonably dilute as well as palatable form. Undoubtedly the agreeable flavor increases the appetite, a by no means unimportant consideration.

The American draft horse is the highest achievement of improved stock breeding; he has won his way to the front rank upon his merits as the industrial horse that commands the best price of any horse or any stock the farmer can raise.

BARLEY AS HORSE FEED.

The barley grown on the Pacific coast is extensively used in the feeding of horses, and its use for this purpose is old in other countries. Elsewhere barley is not extensively used as a feed in the United States, doubtless owing to the fact that it is in such demand for brewing purposes that it is usually high in price. Wherever it is grown, however, it is frequently possible to secure at low cost grain which is off color, owing to rain and fog during harvest, and which, for this or some other reason, is unfit for brewing, but valuable as feed. Barley may be fed whole to horses having good teeth and not required to do severe work. Since ground barley, like wheat, forms a pasty mass when mixed with saliva, it is regarded as more satisfactory to crush than to grind it, if for any reason it is considered undesirable to feed the grain whole. At the North Dakota station J. H. Shepperd has recently studied the value of barley as a feed for work horses and mules. For some months this grain was fed with timothy hay to three horses and two mules. The mules did not eat the barley with marked relish at any time, but for two months, during which time they were performing light work, they ate enough to keep them in condition. The work was then increased, but they would not eat a correspondingly greater quantity of barley, and soon began to refuse it altogether for a day or so at a time. The mules were then given oats on alternate months. This grain was eaten with relish, and gains in weight were made. Although the trial lasted nine months, the mules persistently refused barley. Of the horses mentioned above, two were work horses. They were fed alternately barley and oats, with timothy hay for nine periods of twenty-eight days each. They ate the barley without regard to the amount of work required of them. On the oat ration there was an average daily gain of .38 pound per horse. On the barley ration there was an average daily gain per horse of .15 per pound. In both cases the horses averaged 5.50 hours' work per day. This trial indicates that horses, when taxed to the limit by hard work, cannot be supported upon barley quite so well as upon oats, and that it is worth slightly less per pound than oats with stock which is given a medium amount of work. It indicates, further, that mules take less kindly to barley than do horses, and that horses which are inclined to be "dainty" will not eat barley so readily as oats.—United States Department of Agriculture.

COLORADO RIVER BILL.

The contest between the conflicting interests on the Colorado river water right is interesting the President, and it is proposed that the President shall, through the appropriate executive departments institute an investigation of the various questions involved in connection with the use of the waters of the Lower Colorado river for the irrigation of arid lands in the State of California and the Territory of Arizona, with a view to determining the extent to which the waters of said stream may be made available for said purpose through works under the national irrigation act, and by private enterprise, and as to what legislation, if any, is necessary to conform to the present and future appropriations and users of the same perpetual rights to use said waters for irrigation.

Don't give your dogs hot food. Nature did not intend them to have warm food because it leads to indigestion and will injure their teeth.

BURBANK.

(Continued from first page.)

J. Wickson says: "Thus fortune, in her most generous mood, decreed that one of the boy's twenty-three seedlings should be so notable, that, in after years, the man might have courage to burn over sixty thousand plants of one kind at a time, because none of them were notable." And this destruction of the worthless I saw in his garden a few minutes later when I was shown a plot of "cream cups," one of California's attractive little wild flowers, but not considered worthy of cultivation, where thousands were being uprooted while a few others, a dozen perhaps, were saved to produce, possibly, what may become noted, in later years, along with the Shasta daisy.

A plot, possibly twenty feet square, had been sown with the seed of the choicest cream cups to be found. The aim is to get a larger flower and with deeper color—if possible the gold of the poppy. Only those flowers which will promise a step in that direction are saved, hence the failures are vastly greater than the successes. But with it all there is patience, patience and pursuing after the ideal "which has never been equaled, nor even approached."

It suddenly occurred to me that this patience might be tested by my trespassing too long upon valuable time, so I arose to go and was given a most hearty hand grasp and genial goodbye which could only draw me closer and make me feel the warmth of friendship which may be granted to those who are close enough to this man to claim a share in his affection.

A look about the place under guidance of the young man who has charge of much of his propagation and pollenizing, was of great interest to me. Of interest, not because of great things seen, but because of the great number of little things from which some great success may come. There were clovers, there were daisies—Shastas, Westralias, Californias, Alaskas and others which may be still greater—there were grasses, there amaryllas and other bulbs, there were poppies golden, poppies pink and poppies red, cream cups; larkspur, "Old hen and chickens" and last there were cactus, common California field cactus. Yet it wasn't quite "common" either, for on closer inspection there were no thorns—a thornless cactus, or almost so, for there is yet a little wart where the thorn once was which yet has exceedingly fine hair-like spines. But another generation may see these all gone. Then "What is cactus without a thorn?" Well, it's good cattle feed and the sand washes and desert plains of California may yet be made to support cattle, as well as do its thousand hills.

"And what did I learn in my short interview?" The kind of a fruit to plant to make more money?" No. "The most beautiful flower to grow?" No. "Burbank's greatest addition to horticulture?" No, but I did learn this: That of all the thousands and thousands of failures we humans make, there may be one success which, if we will open our eyes to see it, and our hands to grasp it, therein may be success to overcome all the failures.

Long live Luther Burbank to teach us this.

Governor Pardee has appointed John S. Connick and John G. Murray Harbor Commissioners for the port of Eureka, Humboldt county, vice themselves, terms expired.

THE LOVERS.

The sky above was tender blue
And golden was the weather
When down a path a foolish two
Went strolling on together.
Her little hand in his was tight
(With boldness well amazing),
And thus they sauntered full in sight,
And every one a-gazing!

It matters not of things they talked,
Prosaic, ordinary;
The fact was patent that they walked
A different language—very!
Perhaps, because their heads were turned,
They deemed themselves sequestered,
And thought they could not be discerned,
And by rude glances pestered.

"How silly!" laughed the grass and breeze—
And kissed each other over;
"How silly!" scoffed the honey bees—
And straight caressed the clover.
"How silly!" piped the feathered tribe—
And fell to billing sweetly;
"How silly!" quoth we all in jibe—
And envied them completely.—Smart Set.

Winnie's $1,000 Ride

The squire had forgotten his pomposity. "Five hundred dollars to the man that delivers this letter!" he cried, his glance taking in the little knot of men at the village postoffice. There were no replies.

"Five hundred dollars is a good deal, boys," he added, persuasively.

"Telegraph, squire," some one spoke up.

"Wires down," was the curt response.

"Make it a thousand," said the squire in his harsh, dry voice. The men looked at each other, then out of the window at the thickly falling snow, which the wind was whirling down the already drifting street. "An' it a blowing sixty days for Sunday up here now," muttered some one under his breath. No one noticed a boy who slipped out and hobbled away up the street as fast as his crutches and the blinding snow would allow.

"Did he really say that, Bobby?" asked Winnie, putting her hands on the boy's shoulders and looking into the excited depths of his clear blue eye, so like his mother's that she felt the hot tears spring to her own. "Did he really say a thousand dollars, Bobby, and did the men hear him say it?"

She waited anxiously for his answer, and then, with lines of determination about her mouth, she said firmly: "He won't dare to go back on his word, then."

Winnie rested her chin on her hand and looked intently at the floor, but she did not see the faded carpet, so scrupulously clean. She saw her father grown prematurely old and gray, working far into the night over his accounts, with but one answer to the tender inquiries, "Nothing that you can help me with, dear,' in a voice that tried hard to be cheery, and the ever ready kiss. Mother had said, "Take care of father." She looked up, Bobby was looking at her, then at his crutches, with wistful face. Winnie understood and smoothed the bright head lovingly as she said, "Never mind, Bobby; sister will manage it; only don't let father know where I've gone."

Bobby flung his arms about his sister in boyish enthusiasm, crying:

"I knew you'd find a way, Winnie."

"Go to the squire's, Bobby. Tell him you have found a messenger and get the letter and I will be ready by the time you get back."

The boy started on his errand and Winnie ran up to her room. Seating herself at her desk she wrote her name and address distinctly upon a piece of paper, folding up with it a slip which she had abstracted from her father's desk, and the squire's letter that Bobby slipped under her door. About it all she wrapped a large handkerchief and pinning it securely inside the waist of her riding habit.

She wound her long braid tightly about her head and fastened it firmly, then drew on her sealskin cap, which came down well over her ears. Under the skirt of her riding habit she wore a pair of Bobby's heavy trousers. Her own rubber boots, fur gloves, and fur trimmed coat completed her outfit.

She rode slowly and carefully, to husband Ginger's strength. In places the road was wept bare, in others the snow came to the pony's breast, but she tested each step and held every inch she gained. So on mile after mile, though the storm increased in violence and the air grew more chill. The girl pulled off her gloves and thrust her half frozen hands between the saddle and Ginger's warm, pulsating sides, and derived comfort as well as warmth from the contact. Bravely she talked to the pony and bravely the animal tried to respond, but the way was long—O, so cruelly long!—and the biting wind penetrating. She fell into a sort of stupor, from which she roused from time to time, to mutter between stiffened lips: "We're taking care of father, mother. It's a thousand dollars."

A black something loomed up through the snowy air, then took shape, till the spires and chimneys of the city appeared before her and half her journey was over.

With benumbed hands she took from her dress the packet, took the squire's letter and delivered it to the hard featured old lawyer. Like master, like man. She asked for a reply, fearing that the squire might see in that omission some loophole of escape for his stingy soul, and, having received it, wrapped all together again and replaced the parcel inside her waist. Too proud to ask entertainemnt where none was offered, she painfully mounted her pony and started on the homeward track.

Luckily now, the wind was at her back, but both girl and beast were thoroughly jaded and benumbed with cold, and even with the wind's help they made but little progress. The pony put her feet down uncertainly, stopped, trembled, advanced a few steps, and then fell heavily to the ground.

A warm breath on her face caused Winnie to open her eyes. It was Ginger looking sorrowfully down on her. She attempted to raise her right arm; the wrist hung limp. She looked at it reproachfully for failing her, then curiously examined the other. That was all right, at any rate. Raising herself by means of Ginger's mane, she looked about, scarcely yet realizing who or whom she was. Slowly, and with every movement causing the most exquisite pain, she mounted.

The hole into which Ginger had stepped loomed up threateningly at her, and she shuddered at the thought of others lying in ambush. Letting the reins fall on the pony's neck she let the plucky little creature pick her own way with now and then a word of encouragement. The pony understood, and, as though ashamed of her careless step, took redoubled precaution, until her feet struck the flinty village road, and the ride was over.

Slipping from the pony's back to feet that would scarcely hold her, Winnie demanded admittance to the squire.

With trembling fingers she took the packet from her dress and drawing out the lawyer's letter, laid it silently on the desk. The squire read it through with evident satisfaction; then, turning abruptly, he said: "Who brought this letter, girl?"

"I did sir," was the answer.

The squire sniffed contemptuously. "What's your name, girl?"

"Winifred Alison,"

He wheeled about and gave her a scorching glance. "Who is your father?" he demanded.

"Jacob Alison," Winnie replied.

The old man arose and went to where she was standing. "And she's Jacob Alison's daughter, and she took that ride for me. I wonder if she knows," he mused.

"It was my father I took that ride for and I do know. This check will just cancel that note of father's you hold. Will you please give it to me and let me go?" Her pride forbade the words, "I am very tired."

The squire came to her with the precious bit of paper in his hand, and turning her face to the light, looked at her long and searchingly, then cleared his throat and said: "Before you go, my girl, I want to shake hands with you. You've got a long head, and that's more than your father ever had."

"Not that hand, please," said Winnie, shrinking back.

"Why not, pray?" he asked, jocularly. "Do you Alisons shake with your left hands?"

"Yes, when our right wrists are broken," Winnie said grimly.

"Long head and grit, too, in an Alison—Egad!" said the squire.—Chicago Tribune.

PERILS IN THE KISS.

A convention of medical men, held recently in St. Louis, discussed the perils lurking in the kiss, and it was the consensus of opinion that much of the sickness, and other diseases which affect the human body, are traceable directly to this unsanitary custom. The fact has long been established that the mouth is the center for the collection of disease germs, and microbes, because it is open much of the time in talking, laughing, eating and in sleeping; that its connection with the nose is so direct that it receives importations of bacilli from that source, and the fact that it is always warm makes it a most favorable receptacle for the germination of those bacilli which affect the stomach and intestines and bring disease and death to the human body.

Kissing is dangerous, say all medical authorities and especially so if the party kissed, or kissing, has some disease which is infectious. Read what so able a paper as the New York Medical Journal says on this subject:

"To the average healthy citizen the practice of kissing includes danger of insidious bacterial infection. When the mucocutaneous investment of the lips presents one or more breaches of continuity, the danger is, of course, indefinitely increased. But to such dangers there is superadded, in the case of the neuropath, that of a shock highly injurious to the nervous system.

It has long been known to ethnologists that among many primitive tribes and races the practice of kissing was unknown. Among the Lapps and the Maoris, rubbing of noses occupied its place. The average native of Japan, a country which promises to take so important a place in the making of future history, still knows nothing of the practice of kissing.

The practice of lip to lip salutation was especially characteristic of English social life in Tudor times. Its universal employment was one of the things noticed by Erasmus during his sojourn in England, and is thus commented on in one of his "Epistolae:" "Here girls with angels' faces, so kind and obliging that you would prefer them to all your Muses. Besides, there is a custom here never to be sufficiently commended. Whenever you come you are received with a kiss by all; when you take your leave, you are dismissed with kisses; you return, kisses are repeated. They come to visit you, kisses again; they leave, you kiss them all around. Should they meet you anywhere, kisses in abundance; in fine, wherever you move, there is nothing but kisses.

WORDS OF GOOD CHEER.

"It isn't the silence of hope unexpressed
That heartens and strengthens the weak
To triumph through strife
For the great things of life;
It's the words of good cheer that we speak."

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SALT LAKE ROUTE

THE FORGETFUL MAN AND WOMAN.

Pauline Grace Hunt, in a recent number of the San Jose Mercury and Herald, tells some queer and interesting stories of forgetfulness in men and women, and, woman-like, concludes that men are more prone to forgetfulness than women. Well, on the whole, we believe she is right. The most punctual of men are deficient in hundreds of small things, where memory controls, but the average, well-balanced woman seldom forgets the little things which go with the every day routine of life. Among the incidents related by the writer are these:

A Forgetful Couple—There is an elderly couple among the writer's acquaintances who very often get into argument. At one time in their younger days the wife's slow step and pale cheek gave unmistakable evidence of declining health. As they were driving slowly along on one of our country roads one day in the early summer, they espied a cottage all shadowed by vines and shrubs, and situated on top of a hill. The wife made the remark that if she were living up there, she would soon recover her usual strength. A few days afterwards she was taken there and the couple remained for many months, but now the husband declares that he went to the cottage alone to ascertain of the occupants could house them for an indefinite period, and the wife says no, they went together and that he carried her up the hill; the husband insists that a certain party was present when they first entered, but the wife says this party did not put in an appearance until the next day; the husband is positive that the house had eight rooms, the wife is certain there were but six; the husband says the house faced the north, the wife declares it faced the south; the husband says the stirway ascended from the front hall, the wife says it ascended from the sitting room; the husband speaks of a back porch, the wife stoutly argues that there was no back porch whatever. The husband says the lady of the house kept chickens, the wife says they were geese; the husband speaks of a piano, the wife says it was a squeaky organ; the husband mentions a rosebush at the side of the east window, the wife says it was morning-glory vine; the husband talks of how the perfume of new-mown hay floated in through the parlor window, the wife says there was no hay field on that side and that it was nothing but a few acres of onions; and thus they argue the subject every week, each positive in his own way, and I have often been tempted to go to the house, if it still stands, and satisfy my curiosity on a few points of their argument and discover if possible, which of the two is right and whose memory has failed.

* * *

Unpractical Eve—Some one has said "while the records are defective, there can be no reasonable doubt that Eve in fashioning her apron, expended all her solicitude on its hang, while Adam's first endeavor was to make a good convenient pocket in his garment," so we can only lament the fact that Eve was not more practical.

* * *

The Value of Pockets—A young couple of local acquaintance who recently returned from a honeymoon trip were stopping with her parents' at her home while their rooms in another part of the city were being put in readiness for their occupancy. When the happy bride began to pack her suit case she found no room for a few accessories which were indispensable in their use, so she approached her husband, who was then donning one of those cravanette overcoat (which you men will admit have pockets in them 8x10 inches in size) and began to fill his pockets. First she dropped in a roll of picture wire, two handkerchiefs, a yard and a half of red neck ribbon, a bottle of perfume, a pair of embroidery scissors, an envelope full of caling cards, gloves, a pin tray, a paper knife, a bolt of baby- ribbon, a box of face powder, a cube of varicolored pins, a lace collar rolled up with a stick pin thrust through it, a little pamphlet, "Hints to Housekeepers," and as a "filler" she came forward with a pair of house slippers, and after tugging away with much exertion for a time, she succeeded in getting the toes in, leaving the high French heels to hang conspicuously over the edge of the pocket. Now if all husbands were like this one, women would never leave anything behind, but alas! after the honeymoon is over, husbands either won't wear their overcoats or else they buy overcoats without 8x10 pockets. I take it that the women who were spoken of in last week's article as being forgetful have been those whose honeymoons were in the forgotten past, and whose husbands were no doubt at that particular moment standing without being hitched while other fair damsels were filling their pockets with their own "rings and things," depriving the wives the luxury of that keyless safe, that veritable trunk, the cravanette pocket of the present-day overcoat.

* * *

Sundry Instances of Forgetfulness—I also know a man who as regularly as clockwork before retiring at night, goes to a certain shelf, takes down a glass, drops his false teeth into it, then goes into the sitting-room, sits down by a table, reaches for the dish of nuts, cracks an English walnut, places the kernel in his mouth, then—holy horrors! He might as well talk in a foreign tongue, for nobody can understand his jabbering.

Then that tell-tale letter. Was a man ever know to mail a letter at the time his instructress mentioned? Where is the wife who has not had her patience tried at seeing a letter fall from her husband's pocket and on picking it up finding it to be her own written a week before? And that spool of thread he might have bought, for he passed right by the store on his way home and now she couldn't get her waist finished to wear Sunday.

Verily, verily I ask:

RECIPES

Eat Little, but Have That Little Good

RHUBARB.

The free use of pieplant or rhubarb is considered a "spring tonic" and will prevent the use of medicine which is often apparently necessary to tone up the system. Being such a common and inexpensive plant, it is really not appreciated by the majority of housewives. When so fortunate as to have it growing in the garden, it is generally used in small amounts for pies early in the season and the remainder allowed to go to waste, when it might be utilized in a variety of appetizing dishes all the year around, as it can be preserved for winter use equally as well as the more expensive fruit.

With Sponge Cake.—An appetizing dish for luncheon may be made from rhubarb and sponge cake, the latter may either be made at home or procured from the baker. Peel and cut a pound of rhubarb in small pieces, put in a saucepan, agate or porcelain, cover generously with sugar and add half a cup of water. Cook slowly until tender, if cooked too quickly the rhubarb falls to pieces and does not keep its form. Add a teaspoonful of lemon juice and when the rhubarb is done strain it from its juice and when cold put the fruit in the center of the cake. Glaze the outside of the cake with apricot jam and sprinkle on top some nuts, chopped fine. When this is done pour the rhubarb syrup around the cake before sending it to the table.

With Tapioca.—Rhubarb tapioca is a pleasant change from pie and sauce. Boil for ten minutes, a pint of chopped rhubarb, two dozen cooked prunes, a quarter of a cup of prune juice and a cup of sugar; then add one-half of tapioca that has been soaked for three-quarters of an hour in cold water. Cook until the tapioca is transparent, serve cold with cream and sugar.

With Jelly.—To make rhubarb jelly, put an equal quantity of rhubarb and sugar in a saucepan with a little water. When the fruit is quite soft, pass through a fine seive, and to each quart of pulp, add two ounces of gelatin. Turn this into an ornamental mould with a hole in the center, and let it set until firm. Turn on to a dish and fill the center with whipped cream, also make a border of whipped cream around the edge.

* * *

EGGS.

Boiled.—Presumably any one can boil an egg, and yet to properly boil an egg is a real art. Egg albumen coagulates at from one hundred and thirty-five degrees to one hundred and sixty degrees Fahrenheit, and for this reason eggs should be cooked at a low temperature. Have boiling water in a saucepan. Place the eggs in the water, cover the pan with a lid, and place on the back of the stove, where the water will not boil. In from eight to ten minutes they will be "soft-boiled." Another way is to put the eggs in cold water, and gradually heat the water. They will be soft-boiled when the boiling point is reached.

Baked.—A pleasing change in cooking eggs is to prepare them as follows: Place seasoned crumbs in a buttered baking-dish; in this break an egg, season with salt, pepper and butter, and bake in a slow oven. Or the whites of the eggs may be beaten until stiff, one teaspoonful of milk added for each egg, seasoned, then piled in individual baking-dishes, the yolk being placed in the center and the eggs baked slowly.

With Minced Ham.—A quickly prepared supper-dish is made by cutting hard-boiled eggs through the center, removing the yolks, mashing them, and seasoning with salt, pepper, lemon-juice, mustard, melted butter, and if desired a little cold minced ham, then filling the cavities in the whites with this mixture. If a slice is cut from the bottom of the whites they will stand alone.

Omelets—The use of hot water instead of milk makes the omelet more tender. It is also better not to make an omelet too large, a four or six egg omelet being quite large enough; if more is desired, it is far better to make two smaller ones. Many prefer to beat the eggs separately, thus insuring a lighter omelet, though drier.

Deviled.—Boil five eggs until very hard; put them into cold water and when cold remove the shells and cut in two with a sharp knife. Remove the yolks, place them in a bowl and rub them smooth with a tablespoonful of olive oil, adding salt, pepper, mustard and vinegar to taste. When well mixed cut a slice from the round end of each white, so that the white cup will stand erect; fill this with the yolk mixture.

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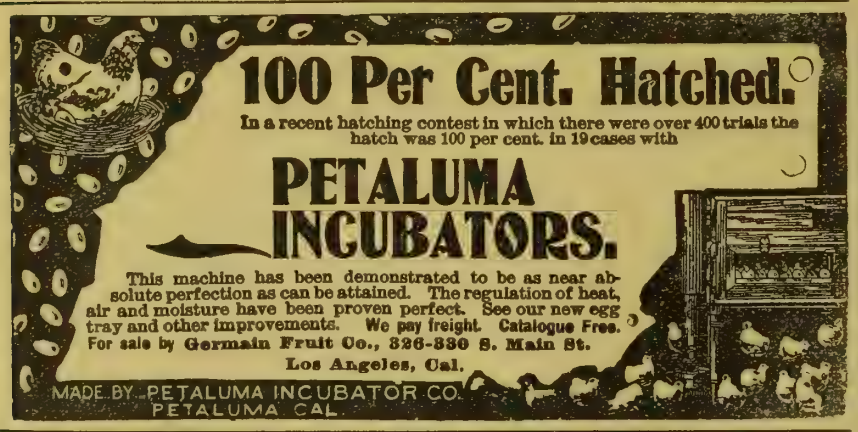
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Los Angeles Markets.

Los Angeles, April 21.

In consequence of the half-inch precipitation during the early part of the week, the local markets have assumed an easy tone. But few changes are reported. Dealers are looking forward to a prosperous season.

As it now looks the prices on all products will be held comparatively firm throughout this year, as the foreign demand is reported to be greater than ever before.

Butter.

It is rumored that the Creamery Board of Trade will again fix the price of butter at 45 cents in the near future. But as yet the price remains at 40 with a good demand.

B. of T. Cream', 2-lb roll		40
Valley creamery, fancy	40	
Coast Creamery		37½
Cooking, per lb		22

Cheese.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	16	
Northern	14	15
Swiss	19	
Imported do	28	

Eggs.

There is much comment on the present egg situation. The price has advanced 2 cents over last week's quotations. How long these prices will hold can not be determined. But the demand is good and the market is held firm.

Fresh ranch	21	22
Store, case count	18	19

Poultry.

Lower quotations on young stock are expected soon. A few spring chickens were offered to the trade this week.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Potatoes remain firm at last week's quptations. The market prospects for the new crop are flattering. Demand good.

River, per cwt		1 90
Oregon, do		2 05
Local Sweets, white		3 25
Early Rose seed	2 25	
Pinkeye, do		2 00
Nevada Pearls, do		2 00

Vegetables; Mixed.

All of the following varieties are being freely offered to the trade. The demand is good and prices remain as quoted last week.

Onions, Nevada, fancy		4 00
Onions, Silver skin		.04
Beets, per 100 lbs		1 25
Cabbages, do		1 50
Green peas	02	04
Lettuce, per sack		40
Tomatoes, 25 lb crate		1 50
Celery	25	30
Hubbard squash, per ton		20 00
Carrots, per sack		85
String beans	08	
Chiles, string		75
Chiles, green, per lb	10	
Rhubarb	85	1.00
Asparagus	06	10

CITRUS FRUITS; FRESH

in market quotations.

Fancy, 126s, per box	2 00	
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 50	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx		2 00
Northern apples, 40 lbs.	1 00	1 50
Strawberries	05	10
Loquats		05

Fruits; Dried.

Apples, evaporated	06	09
Apricots	08	10
Peaches	06	08
Prunes	03	06
Pears		12
Raisins, per box		3 00
Raisins, loose	07	08

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13
Walnuts, soft shell	14	14
Walnuts, hard shell	13½	14
Peanuts, eastern	06	07
Peanuts, California	05	05

Hay and Grain.

The hay and grain prices rema the same as were quoted last wee New Alfalfa is coming in, in sma quantities, which sells to the reta trade at about $11.

Grain in fair demand and pric hold firm.

Alfalfa	11 00	13 00
Tame oat		12 50
Barley hay	10 00	13 00
Wheat hay		13 00
Oats	1 25	1 35
Wheat	1 45	1 55
Barley	1 15	1 17
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets

San Francisco, April 21.

Dairy.

The butter market is slightly weaker th a week ago, though the price shows a sha ing of less than a half cent. Holders see indifferent as to selling at present prices.

BUTTER—Per lb:

Creamery, extras	19
Creamery, good to fancy	18 @18
Dairy, extra	17 @17
Dairy, choice,	15 @16
Store	14

CHEESE—Per lb:

Cal. Creamery, mild new, extr	10½
Cal. Creamery, new mild, choice	8 @10
Young America	10 @11
Eastern, New York Cream	15 @16

Eggs and Poultry.

Eggs are materially firmer and quick sal follow all offerings. Storing is being done liberal scale.

EGGS—Per doz:

Ranch, selected, large	20 @21
Ranch, good to choice	18½@19
Store	17 @18

Poultry market is stronger and maximu quotations are easily secured. Several ca of eastern stock have found ready sale.

POULTRY.—Old Roosters, per doz, $5@ young Roosters, $7.50@8.50; Fryers, $6@6.5 Broilers, large, $4@5; small, $2@3.50; Hen small, $5.50@6.50; large, $7@8.50; Ducks, p doz., old, $5.50@6.50; young, $6.50@7.50; Li

Turkeys, per lb., 15@17c; Geese, per pair, $1.50.

Fruits and Vegetables.

DECIDUOUS FRUITS.—Apples, per box, common to choice, 50c@$1.50; fancy, $1.75@2.25.

BERRIES—Per drawer: Strawberries, Longworths, 75c@$1; large varieties, 25@50c.

Oranges have been forced to a fearfully low point by the wet weather and by the large shipments of low grade fruit. Lemons are selling well. Fancy lots of strawberries are quickly picked up at quoted prices. Indifferent fruit often goes begging, not commanding even the lowest. Apples are diminishing with good quality stock hard to get. Ordinary stock commands as high as $2.25.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.50@2; choice, $1@1.50; Standard 50c@$1.10, according to size; Seedlings, 75c; Lemons, $1.25@2.75; Grape Fruit, $1.25@2; Tangerines, $1.25@1.75; Limes, $4.50@5.

VEGETABLES—Asparagus, per lb., 4@6c; Tomatoes, per box or crate, southern, 75c@$1.25; do, Mexican, $1@1.50; Rhubarb, per box, 35@90c; Green Peppers, per lb., Mexican, 15@25c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 15@20c; Wax, 8@10c; Green Peas, per lb., 3@4c; Egg Plant, per lb., 20@25c; Summer Squash, per box, $1@$1.50; Cucumbers, hothouse, per doz., 50c@$1.50; Garlic, per lb., 15c; Dried Okra, per lb., 12½c; Marrowfat Squash, jobbing at 1@2c per lb.

Potatoes are going skyward. New Potatoes are in in too light quantities, not affecting the general market.

POTATOES—Per ctl: River Burbanks, $1.40@1.65; Early Rose, $1.40@1.60; River Reds, $1@1.10; Garnet Chile, $1.40@1.60; Oregon Burbanks, $1.60@1.80; New Potatoes, per lb., 2@3c.

ONIONS—Per ctl: Oregon, $2.60@2.75; Australian, $3@3.25; Green Onions, per box, 50c@65c.

Dried Fruits, Nuts, Etc.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are, per lb, as follows:

Apples—Evaporated, 5@6c; Sun Dried, 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice, 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7¼c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 5¾@6½c; fancy, 7@7½c; peeled, in boxes, 11@14c.

Pears—Bartlett, fancy, 11½c; choice, 9½@10c.

Hops.

The price for new crop is 24@27½c per lb., according to quality.

Beans.

The market for Beans is dull, with a marked absence of inquiry noted in all lines.

BEANS—Prices per ctl.: Large Whites, $2.60@2.75; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.30@3.40; Red, $4.50@5; Pink, $3.20@3.40; Bayo, $2.40@2.65; Blackeyes, $2.05@2.25; Kidneys, $4.75@5.

Live Stock.

CATTLE—No. 4 Native Steers, 9½@10c; second quality, 8½@9c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 7@7½c; second quality, 6½@7c; thin Cows and Heifers, 5@6c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

HOGS—Per lb: Hard grain fed, weighing alive 130 lbs and over, 6@6¼c; weighing under 130 lbs and over, 5¾@6c; weighing 250 to 300 lbs, 5½c@6c; rough heavy, 4@4½c.

Hay and Feed Stuffs.

Hay shows slight decline, forced by favorable growing weather.

HAY—Per ton: Wheat, $14@16; Wheat and Oat, $13.50@15.50; Oat, $11.50@15.50, Barley, $11.30@13.50; Alfalfa, $11@13; Stock, nominal.

STRAW—Good to choice, per bale, 60@70c.

OIL CAKE MEAL—In lots of 20 tons, $29.50.

CRACKED CORN—Choice quality, per ton, $28@29.

FEED CORN MEAL—Choice grades, per ton, $30@31.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $23.50@24.50.

MIDDLINGS—Per ton, $24@26.

BRAN—Per ton, $20@21.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 shipping, per ctl., $1.37; choice, $1.50; White Milling, good to choice, $1.42.

BARLEY—Choice No. 1 Feed, $1.06¼@1.12; off grades, $1.10@1.11¼; Brewing No. 1, $1.17½@1.21¾; Chevalier nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small, do, nominal; White, $1.37½@1.45; Eastern, $1.32½@1.40.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

CHICAGO, April 20.—Moisture in the shape of rain or snow from the Rocky Mountains to the Ohio river satisfied a long felt want in a considerable portion of the territory affected and caused a shade of weakness over open trading in wheat.

The feature of the trading in corn was the heavy liquidation of the May delivery of heavy holders.

Oats were firm early in the day, but the close was near the bottom.

Higher prices for hogs brought out a good scattered demand for provisions early in the session. Later, however, the weakness of grain caused liberal selling. The close was steady.

Cash quotations were as follows: Flour was dull and easier; No. 3 spring wheat 84@95; No. 2 red, 98@1.02; No. 2 corn, 49½@50; No. 2 yellow, 49½@50; No. 2 oats, 37⅝@37⅞; No. 3 white, 39@41; No. 2 rye, 66; good feeding barley, 32@34; fair to choice malting, 44@55.

DAIRY MARKET.

On the Produce Exchange tonay the butter market was steady; creamery, 14@23; dairy, 13@21; eggs, steady, 16½@17; cheese, easy, 9@10½.

Chicago Live Stock.

CHICAGO, April 20.—Cattle, receipts, 15,000; steady to strong. Good to prime steers, 5.00@5.65; poor to medium, 3.50@3.90; stockers and feeders, 2.75@4.30; cows, 1.50@4.35; heifers, 2.00@4.60; canners, 1.50@2.40; bulls, 2.00@4.00; calves, 2.00@4.60; Texas fed steers, 4.00@4.60; Western steers, ——; Hogs, receipts to day, 22,000; tomorrow, 25,000; steady to higher. Mixed and butchers, 5.00@5.25; good to choice heavy, 5.15@5.25; rough heavy, 4.95@5.10; light, 4.80@5.10; bulk of sales, 5.00@5.15. Sheep, receipts, 18,000; sheep, steady to strong; lambs, steady. Good to choice wethers, 5.00@5.65; fair to choice mixed, 3.25@4.55; western sheep, 3.75@4.75; native lambs, 4.50@5.75; western lambs, clipped, 4.60@6.75.

Dried Fruits, Nuts, Etc.

NEW YORK, April 19.—The market for evaporated apples is quiet with demand light, but attractive grades are steadily held. Common, 4@5¼; prime, 5½@5¾; choice, 6¼@6½; fancy, 7@7½. Prunes continue quiet at prices ranging from 3 to 5¾, according to grade. Apricots are meeting with a moderate demand and rule quiet; choice, 9½@10; extra choice, 10¼@10½; fancy, 11@13. Peaches rule quiet, but steady; choice, 7¼@7½; extra choice, 7¾@8; fancy, 9½@10.

CITRUS MARKETS

The Citrus markets are somewhat stronger, some fruit commanding as high as $2.95. The average is held down by the large proportion of large sizes and the soft and poor condition of the fruit. Puffy fruit is a serious factor, some of which gets into better grades. There are now plenty of cars and fruit is going out rapidly.

AUCTIONS.

NEW YORK CITY, April 14th, 1904.
NAVELS.

Independent, Corson, Highland, $2.35, $2.15; Alta Mesa, $2.15; Independent, $1.90.
Old Mission, Chapmans', Fullerton, $1.85; Golden Eagle, $1.80.

BOSTON, Mass., April 14th, 1904.
NAVELS.

Arrowhead, S. B. Ex., Highland, $2.05; Carrier, $1.75.
Swan, S. B. Ex., Redlands, $1.85.
Royal, Q. C. Ex., Corona, $2.05; Queen Bee, ½, $1.10.
Squirrel, A. H. Ex., Prenda, $1.50; Palm Tree, $1.65.
La Mesa, Riv., Riv., $2.00; Golden Rule, $1.70.
Violet, D. M. Ex., Duarte, $1.40.
Gypsy Queen, C. C. U., C. B. Sta., $2.30, $1.90; Camellia, $2.60.
Clover, C. C. U., Redlands, $1.70.
Stearns, C. C. U., W. Highland, $1.85.
Volunteer, S. A. Ex., No. Pomona, $1.85; Foot Hill, $1.85.
Uncle Sam, Riv., Pachappa, $1.80.
Indian Hill (Grape), S. A. Ex., No. Pomona, $1.85.

NEW YORK CITY, April 15th, 1904.
NAVELS.

Red Globe, Riv., Riv., $2.05; La Mesa, $2.20, $2.15, $2.15; Pepper, $2.00.
Swan, S. B. Ex., Redlands, $2.00.
Coyote, O. K. Ex., Narod, $2.00; Owl, $1.90.
Pointer, A. C. G., Azusa, $1.80; Red Shield, $2.00.
Choice, Q. C. Ex., Corona, $1.95.
Selects, A. S. Ex., San Dimas, $1.80.
Angel, C. C. U., Colton, $1.25; Marguerite, $1.25.
Columbia, Q. C. Assn., $1.70.
Orange Prince, Collins Ft. Co., $2.10; Orchard Queen, $2.00.
La France, J. S. Kuns, Cov., $1.95; Orange Girl,, $2.05.
Atlas, C. C. U., Redlands, $1.80; Clover, $1.80, $1.90; Tiger Head, $1.85.
Geranium, C. C. U., E. Highland, $1.90.
National, C. C. U., Highgrove, $2.20; Capitol, $2.00; Daisy, $1.65.
Columbia, C. C. U., C. B. Sta., $1.95; Carnation, $1.95, $2.00.
Poinsettia, C. C. U., A. Sta., Riv., $1.55; Excelsior, $1.50.
Mtn. Chief, C. C. U., $1.80.
Cloister, Rubidoux Ft. Co., $2.35.
Whittier, W. F. Whittier, $2.10, $1.90.
Nomark, $1.90.
People's Taste, $2.05.

GRAPE FRUIT.

Harmony, S. A. Ex., San Dimas, $1.15.
Blue Seal, A. C. G. Ex., Azusa, $1.60.
Capitol, C. C. U., Highgrove, .95.
Angel, C. C. U., Colton, .85.
Whittier, W. F. Whittier, $2.60.
Orange Prince, Collins Ft. Co., $1.60.
Trophy (Seed.), C. C. U., E. Highland, $2.25.

RUBY BLOODS.

C. C. U., Redlands, Poppy, ½, $2.30.
La Mesa, Riv., Riv., $2.20; Golden Rule, $2.05; Red Globe, $2.10; ½, $2.30.
Cloister, Rubidoux Ft. Co., $1.10.

TANGERINES.

La Mesa, ½, Riv., Riv., $2.30, $2.50.
Cloister, Rubidoux Ft. Co., $1.00.
Blue Seal, A. C. G. Ex., Azusa, $2.75.
Angel, C. C. U., Colton, .75.

PHILADELPHIA, Pa., April 15th, 1904.
NAVELS.

La Mesa, Riv., Riv., $2.30.
V. V., Cov. Ex., Azusa, $1.65.
Holly, Cov. Ex., Covina, $1.70.
S. S., S. S. Ex., Orange, $1.35.
Violet, D. M. Ex., Duarte, $1.95.
S. S., S. S. Ex., Anaheim, $1.50, $1.55.
Cloister, Rubidoux Ft. Co., $2.25.
Bridge Grove, J. L. Means, $1.90.
Covina, Houser Bros., $1.70.
Mtn. Chief, C. C. U., $1.95; State Seal, (Sweets), $1.50.
La Mesa (Bloods), Riv., Riv., $2.20.
Cloister (Bloods), ½, Rubidoux Ft. Co., $1.30.
Camellia, C. C. U., Redlands, $2.10; Tiger Head, $1.80, $1.75; Blossom, $1.90.
Sky High, C. C. U., San Marino, $1.75.
Red Letter, C. C. U., Tropico, $1.50.
Sunshine, C. C. U., Whittier, $1.20.
Holly, Cov. Ex., Covina, $1.60.
Young America, Pinkham & McKeavit, $1.60; Banner, $1.75; Park, $2.00, $1.75; Park (Sweets), $1.60.
Fancy (Tangs), C. C. U., Redlands, $1.25.
Nasturtium (Seeds), C. C. U., Pasadena, $1.50.

BOSTON, Mass., April 15th, 1904.
Tiger, S. B. Ex., Colton, $1.95.
Golden Rule, Riv., Riv., $1.80.
Squirrel, A. H. Ex., Prenda, $1.70.
Volunteer, S. A. Ex., No. Pom., $1.70.
Golden Rule, Cov., Azusa Ave., $1.75; V. V. $1.30.
Yosemite, C. C. U., Highland, $2.00.
Fox, C. C. U., W. Duarte, $1.50; Liberty Bell, $1.40.
Yosemite, C. C. U., Highland, $1.90, $1.85.
Banner, P. & McKeavit, $1.90.
Pioneer, C. J. Shepard, $1.70.
Rose, C. C. U., Redlands, $2.15; Golden West, $1.80; Clover, $1.75; Bronco, $1.90; Herald, $1.70; Bronco, T. I., $1.70; Herald, T. I., $1.60; Atlas, $1.65.
Cream, C. C. U., Rialto, $2.40; Rialto, $2.20; Minnehaha, $1.95.
Elephant, Rubidoux Ft. Co., $1.80; State Seal (Med. Sweets), $1.60.

GRAPE FRUIT.

Tiger, S. B. Ex., Colton, $1.50.
Gondolier, C. C. U., Rialto, $1.45.
Rose, ½, C. C. U., Redlands, $1.25.
Gypsy Queen, C. C. U., C. B. Sta., $2.60; Camellia, $1.90.

PHILADELPHIA, Pa., April 18th, 1904.
Stag, A. C. G. Ex., Glendora, $2.65; Pointer, $1.65, $1.75; Pointer, T. I., $2.15, $1.65.
Golden Rule, Riv., Riv., $1.70; La Mesa, $2.05; Golden Rule, $1.80, $1.65.
Iris, D. M. Ex., Duarte, $2.05; Violet, $1.75.
Palm Tree, A. H. Ex., Prenda, $1.65.
Parrot, S. A. Ex., Pomona, $1.70, $1.75; Jewel, $1.70, $1.75; Carlo, $1.45.
Selects, S. A. Ex., San Dimas, $1.60.
Choice, Q. C. Ex., Corona, $1.35, $1.65.
Highland, Highland F. G. A., $2.00, $1.80, $1.75, $1.55.
Lion Head, C. C. U., Redlands, $2.15; Tiger Head, $1.55, $1.65; Blossom, $1.95; Sunflower, $1.80; Monogram, $1.60; Clover, $1.80.
Perfection, C. C. U., Alles., $1.90, $1.80; Golden Rod, $1.75, $1.65.
Azalia, C. C. U., Fullerton, $1.40; Dragon, $1.30.
Coyote, O. K. Ex., Upland, $1.75; Owl, $1.65.
Holly, Cov. Ex., Covina, $1.60.
Orange Bowl, S. T. Ex., Fullerton, $1.55.
Banner, P. & McKeavit, $1.75.
Parrot, Pomona F. G. A., $1.85.

LEMONS.

Highland, Highland F. G. A., $2.00, $1.80.
Standard, T. C. Ex., Porterville, $1.55.

BLOODS.

Iris, D. M. Ex., Duarte, $2.00; Violet, $1.75.
Azalia (Budded), C. C. U., Fullerton, $1.55.
Mistletoe, C. C. U., Lindsay, $1.70.
Quail, O. K. Ex., Upland, $1.05; Coyote, .90.

TANGERINES.

Parrot, S. A. Ex., Pomona, .90.

GRAPE FRUIT.

Lily, C. C. U., Lindsay, $1.45; Mistletoe, $1.80.

BOSTON, Mass., April 18th, 1904.
NAVELS.

Squirrel, A. H. Ex., Prenda, $1.95; Palm Tree, $1.70.
La Mesa, Riv., Riv., $2.10; Golden Rule, $1.85; La Mesa, $2.00;.
Lincoln, Riv., Riv., C. B. Sta., $1.75; Navajo, $1.55.
Choice, Q. C. Ex., Corona, $1.85.
Selects, S. A. Ex., No. Pomona, $1.90; Morning Glory, $1.75.
Royal, Q. C. Ex., Corona, $2.00.
Swan, S. B. Ex., Redlands, $1.65.
Pointer, A. C. G. Ex., Lateen, $1.65.
Coyote, O. K. Ex., Upland, $1.65; Owl, $1.55.
Clover, C. C. U., Redlands, $1.80; Atlas, $1.80; Monogram, $2.10; Bronco, $1.80; Monogram, $1.75; Clover, $1.75.
National, C. C. U., Highgrove, $2.15; Our Favorite, $2.00; Poinsettia, $2.10; Capitol, T. I., $1.70; Excelsior, $1.85; Daisy, $1.65.
Lighthouse, C. C. U., Ontario, $1.50.
Bear, O. K. Ex., Upland, $2.30; Owl, $1.80.
Golden Harvest, Rubidoux Ft. Co., $2.10; Elephant, $2.00; Marshall, $1.95, $1.75; Girl, $1.65.
Heap Good, Pattee & Lett, $1.75.
Marigold, Riverside Ft. Co., $1.85; People's Taste, $1.85; Plain End, $1.85.

TANGERINES.

Golden Orange, A. H. Ex., Prenda, .85,
Bronco, C. C. U., Redlands, $1.10.

BLOODS.

Squirrel, A. H. Ex., Prenda, $1.85, .85.
Orchard Run, Riv., Riv., $1.75.
Mixed, C. C. U., Redlands, $1.75; Clover, $2.10; Rose, $1.15, $1.75, $1.10.

SEEDLESS GRAPE FRUIT.

Bear, O. K. Ex., Upland, $2.05; Coyote, $1.95.

LEMONS.

McNair, $2.00.
Corwin's, W. S. Corwin, $1.65, $1.30.

NEW YORK CITY, April 18th, 1904.
NAVELS.

Tier, S. B. Ex., Colton, $2.10.
Blue Mountain, Riv., Riv., $2.10; Red Mountain, $2.00; Blue Globe, $2.10; La Mesa, $2.20; Golden Rule, $1.95.
Our Pride, Highgrove, $2.25; Eagle, $2.05.
Stork, S. A. Ex., Claremont, $1.90.
Iris, D. M. Ex., Duarte, $2.05; Violet, $1.85.
Arrowhead, S. B. Ex., Highland, $2.05.
Squirrel, A. H. Ex., Arlington, $2.20.
Palm Tree, A. H. Ex., Prenda, $1.80.
Red "C," Cov. Ex., Covina, $1.95; Butterfly, $2.15; Holly, $1.95; Butterfly, $2.00; White "C," $1.90.
Jewel, S. A. Ex., Pomona, $1.90.
Violet, D. M. Ex., Duarte, $1.90.
Carmencita, S. T. Ex., Fullerton, $1.50.
Cloister, Rubidoux Ft. Co., $2.25; Elephant, $2.00.
Young America, Pinkham & McKeavit, $2.00; Banner, $1.90.
Covina, Houser Bros., $1.95; Reservoir, $1.90, $2.00.
Rialto, C. C. U., Rialto, $2.30; Gondolier, $1.75.
Golden West, C. C. U., Redlands, $2.05; Clover, $1.95, $2.00, $2.10; Atlas, $1.95; Camellia, $2.10; Blossom, $2.00.
Artesia, A. H. Ex., Prenda, $2.85; Squirrel, $2.00.
Rey, S. T. Ex., Fernando, $2.10; Tunnel, $2.20.
Stag, A. C. G. Ex., Azusa, $1.85; Pointer, $1.75.
Pointer, A. C. G. Ex., Lateen, $1.70.
Camellia, C. C. U., Redlands, $1.95; Atlas, $2.00; Clover, $1.95.
Poinsettia, C. C. U., Riverside, $2.00.
Nasturtium, C. C. U., Pasadena, $2.05.
Sky High, C. C. U., San Marino, $1.90.
Carnation, C. C. U., C. B. Sta., $2.05.
Amethyst, C. C. U., Covina, $1.60.
Independent, Corson, Highland, $2.25, $2.00.
Alta Mesa, $2.10.
Old Mission, Chapmans', Full'n, $2.05; Golden Eagle, $1.90.

TANGERINES.

La Mesa, Riv., Riv., $2.40; Liberty, $1.30; Blue Globe, $2.35.
Camellia, C. C. U., Redlands, $2.55.
Golden Orange, A. H. Ex., Prenda, $2.70.
King, S. A. Ex., Clare., $2.75.

GRAPE FRUIT.

Tiger, S. B. Ex., Colton, .90.
Independent, Corson, Highland, $2.15.
Gondolier, C. C. U., Rialto, $2.05.

BLOODS.

Blue Mountain, Riv., Riv., $2.00, $2.20.
Stork, S. A. Ex., Clare., $1.90.
Rey, S. T. Ex., Fernando, $2.05.
Tiger, S. A. Ex., Colton, $2.15, $2.50; Liberty, $1.95.
Gondolier, C. C. U., Rialto, $1.90.
Rose Malta, C. C. U., Redlands, $2.20; Clover, $2.00; Clover Ruby, $2.10; Camellia, $2.20.
Nasturtium, C. C. U., Pasadena, $2.00; Liberty, $1.20.

NEW YORK CITY, April 19th, 1904.
NAVELS.

La Mesa, Riv., Riv., $2.20, $2.15; Blue Mtn., $2.00; Blue Globe, $2.15; Red Globe, $2.15; Pepper, $2.10.
Carrier, S. B. Ex., Highland, $2.00; Arrowhead, $2.00.
Squirrel, A. H. Ex., Prenda, $2.05, $2.00.
Jewel, S. A. Ex., Pomona, $1.85.
Iris, D. M. Ex., Duarte, $2.35, $2.05; Violet, $2.40, $1.90.
Old Mission, Chapmans', Ful'n, $2.70, $2.15; Golden Eagle, $2.00.
Independent, Corson, Highland, $1.95; Alta Mesa, $2.15; Highland King, $2.00; Highland King (Halves), $1.15.
Blossom, C. C. U., Redlands, $2.20; Sunflower, $1.90; Clover, $1.90; Atlas, $1.85, $1.95; Bronco, $2.05; Herald, $1.90; Tiger Head, $1.95, $1.85.
Cactus, C. C. U., Highland, $1.70, $1.80, $1.85.
Don Quixote, C. C. U., E. Alles., $1.65.
Saph, C. C. U. Ex., Covina, $1.65.
Angel, C. C. U., Ex., Colton, $2.00; Marguerite, $1.95; Marguerite (Seeds.), $1.85; Angel, $1.95.
Mtn. Chief, C. C. U., $1.85.
Cloister, Rubidoux Ft. Co., $2.25.
Young America, P. & McKeavit, $2.05, $2.00.
Whittier, W. F. Whittier, $2.15, $2.05.
Highland King, $2.15.

TANGERINES.

Red Globe, Riv., Riv., $2.30.
Independent, ½, Corson, Highland, $1.10.
Blue Mtn., ½, P. & McKeavit, $1.40, $1.50.
Bronco, C. C. U., Redlands, $3.20; Tiger Head, $3.10.
Angel, C. C. U., Colton, $2.25.
Rose, C. C. U., Redlands, $2.10.

GRAPE FRUIT.

Orange Prince, Collins Ft. Co., $1.50, $1.85.

SAN FRANCISCO, Cal., April 19th, 1904.
NAVELS.

Pet, S. A. Ex., San Dimas, $1.30; Selects, .80; Meteor, .70.
Volunteer, S. A. Ex., No. Pomona, $1.25; Selects, .80.
Stork, S. A. Ex., Clare., $1.10.
Parrot, S. A. Ex., Pomona, $1.20; Jewel, .75; Carlo, .75.
La Della, C. C. U., Redlands, .65.
Mission Bells (Bud.), San Marino, .60.
Blue Globe, Riv., Riv., $1.55; Pepper, .60.
Red Point, Riv., Pachappa, .85; Criterion, .65.
Pointer, A. C. G. Ex., Glendora, .80; Plain End, .75.
Carmencita, S. T. Ex., Fullerton, $1.10; Orange Bowl, .95.

ALIAS SUMMONS.
No. 42367.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Doty T. Parks, plaintiff, vs. Alice Parks, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the Office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Alice Parks, defendant.

You are hereby directed to appear and answer the complaint in an action entitled as above, brought against you in the Superior Court of the County of Los Angeles, State of California, within ten days after the service on you of this summons—if served within this county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

ALIAS SUMMONS.
No. 42415.

In the Superior Court of the State of California, in and for the County of Los Angeles.

Chas. B. Estill, plaintiff, vs. Mollie Estill, defendant.

Action brought in the Superior Court of the State of California, in and for the County of Los Angeles, and the complaint filed in said County of Los Angeles, in the office of the Clerk of said Superior Court.

The People of the State of California send greeting to: Mollie Estill, defendant.

You are hereby directed to appear and answer the complaint in an action as above, brought against you in the Superior Court of the County of Los Angeles, State of California county; or within thirty days if served elsewhere.

And you are hereby notified that unless you appear and answer as above required, the said plaintiff will take judgment for any money or damages demanded in the complaint, as arising upon contract, or he will apply to the court for any other relief demanded in the complaint.

Given under my hand and the seal of the Superior Court of the County of Los Angeles, State of California, this 20th day of January, A. D. 1904.

(Seal) C. G. KEYES, Clerk.
By C. O. WINTERS, Deputy Clerk.

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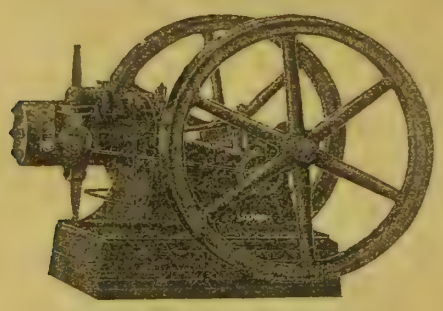

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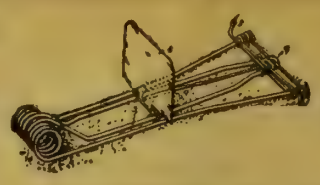

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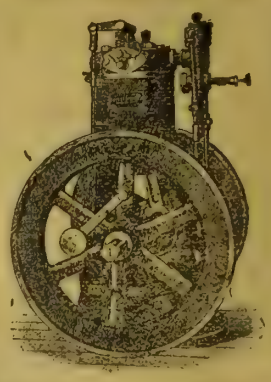

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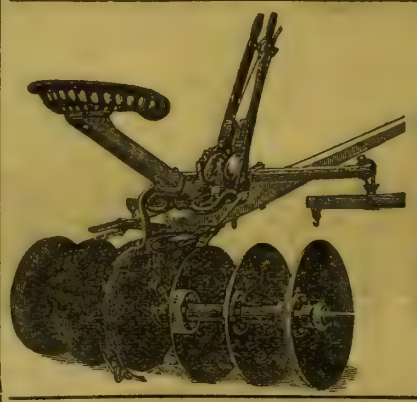

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UNIVERSITY OF ILLINOIS

California Cultivator

LOS ANGELES SAN FRANCISCO

MAY 6, 1904

IN THIS ISSUE: The Value of Alfalfa; The Farmer as a Reader; Turkey Lore; Tortured for Thanksgiving; The Beef Trust; Lumpy Jaw; Unjust Taxation.

A Victoria Hill Home, Riverside. Courtesy Riverside Press

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 19 LOS ANGELES, CAL., FRIDAY, MAY 6, 1904 Subscription $1 a Year

The Value of Alfalfa in Farm Economy

Alfalfa has come to be known in California as one of the most serviceable crops for fodder grown in the State. Within a comparatively brief period its popularity as a feeding plant has so developed that dairymen and stockmen generally are seeking fields where it may be grown to the exclusion of other crops. Every State and territory in the Union grows with more or less success alfalfa, which, when properly treated is one of the best hay and soiling crops the farmer can put in. It is sometimes called lucerne, and by this name was introduced into California as early as 1850. In the West alfalfa grows taller than lucerne in the East. In California it has grown to be quite a hardy plant and requires less water than it does east, owing perhaps to the fact that it does not freeze out here, while in the Eastern States it frequently kills out in one hard winter. If the frost reaches the roots the plant is gone. Alfalfa is known as a deep feeder. The tap-roots descend to considerable depth where the soil is loose, often reaching a depth of ten or twelve feet. In sandy districts where water is low down it has been known to go down to a depth of 50 to 60 feet.

As a general thing alfalfa will not stand too close grazing. Cattle and horses do not injure it, but sheep do, for they feed so close as to take off the growth which comes directly from the root, thus impairing the vitality of the plant, often producing death. It may be stated here that alfalfa is as easily killed by too much water as it is by no water at all. In counties where a hard pan runs under shallow soil it turns yellow and dies. Irrigation produces the best crops.

Good drainage is necessary in a wet country, as the plants are quickly killed by excess of water in the soil or on the surface. Water must never be allowed to stand on a field of alfalfa more than forty-eight hours at a time, for, if the ground becomes saturated with water and is allowed to remain so for any considerable length of time, the plants will be drowned out and the roots will decay. Alfalfa feeds mostly on lime, potash, magnesium, and phosphoric acid, and succeeds best where the soil is rich in these elements. Of these soil constituents, lime seems to be the most essential to rapid growth, and there will not be a large or paying crop on soils lacking this fertilizer. The prime condition for success is that the land be well drained. If the subsoil is heavy and stiff and impervious to water, alfalfa will not be a permanent success, no matter how well the surface soil has been prepared. Under these conditions there can be no certainty of the plant living beyond a year or two.

The ground must be well prepared before the seed is sown. There is the principal item of expense, for without thorough preparation an indifferent crop will be obtained. Deep plowing will pay well, and it is indispensible to the ground that it shall be harrowed and rolled several times or until the seed bed is perfectly smooth and mellow. The Department of Agriculture recommends frequent applications of water in dry climates, such as we have in Southern California, for without irrigation alfalfa does not reach its best nor does it make a full crop.

The following suggestions are made by the Department of Agriculture to the growers of alfalfa in California, based upon experience with our varied soil and our equitable climate: "Pulverize the soil to the depth of from

Harvesting the Crop.

12 to 20 inches—the deeper the better. Twenty-five pounds of seed is about the average amount to sow per acre. Many farmers report fair results from a less amount, say 12 to 15 pounds per acre. The seed can be drilled in rows or cultivated or sown broadcast. The time of seeding varies much in practice, being any time from August to the middle of December or from February to April. Those who practice spring sowing usually sow with oats or wheat as a nurse crop. If this method is followed, one or two crops of hay can be cut the first season, after the grain crop has been taken off."

On the point of sowing without a nurse crop the Agricultural Department recommends that it is often better to sow without a nurse crop and get a good stand than to get a crop of wheat or oat hay or a small crop of grain and have a poor stand of alfalfa, resulting from so many of the plants being choked out. There is some little advantage, however, in this system, in that rank growth of weeds is prevented; but the accompanying grain is liable to be just as injurious as a rank growth of useless weeds would be. If a nurse crop is used, the alfalfa should be sown after the grain, and should be covered to a depth of not more than 1 inch with a light harrow or brush. Still better results will follow if the seed is rolled in after the oats or wheat have been sown. All kinds of grasses, clovers, and small grain grow better, and a better stand is always secured, if the soil is pressed down around the seed, and this can best be done with a roller. The value of alfalfa for hay has long been recognized by feeders of stock. It has elements in its composition which render it of inestimable value to the cow, the horse and the hog. But alfalfa hay if not properly cured nor cut at the proper time, loses much of its richness and fails in its fattening power.

The nature of the plant requires careful attention when it comes to hay making. Here is where so many fail to secure the best qualities in the hay. Again we quote from the Department of Agriculture on the manner of making hay.

"If the hay is put into stacks or into barns before the stems are cured, it is liable to heat and mold, and if it is allowed to lie on the ground too long before stacking, the leaves get dry and brittle, and will drop off, and a large share of the most valuable part of the forage will be lost. To make the best hay, the field should be cut just when the first flowers begin to appear. If allowed to go until full bloom, or until the plants have finished flowering, the stems become hard and woody, and are unfit to be eaten by stock. To make good hay, cut alfalfa in the forenoon. Let it lie in the swath until the leaves are thoroughly wilted, but not dry and brittle; then rake in windrows and leave it a while, and remove it from the windrows directly to the stack or to the barns."

The experience of the writer with alfalfa hay has been that the less it is handled the better it is for the hay. The leaves are the most valuable part of the plant, and frequent handling is likely to shake off the leaves and thus deprive the plant of its nutritious qualities.

Much more could be said on this point, for hay making is as important as seeding and irrigating. The cocks must not be too large to admit of free circulation of air; otherwise there is danger of heating and molding. Nor must the hay be allowed to become too dry before putting into the stack or barn. There is "just the right time" to cut the hay, and the farmer must exercise his own judgment as to time and conditions.

The feeding value of alfalfa is recognized by every farmer who has used it. It is rich in protein, but deficient in fat and carbo-hydrates. To get the best results it should be fed with roughage, such as oat straw, wheat straw, mullet, sorghum or root crops. These with alfalfa make a complete ration and produce most satisfactory results. In a bulletin issued by the Department of Agriculture on feeding alfalfa to hogs, it is urged that there is no better—no cheaper way to fatten hogs than by the use of alfalfa with some small grain. The bulletin says:

"One acre of alfalfa will furnish forage for from ten to twenty hogs per season. There is no cheaper or better way of producing pork than to allow growing pigs to run in a field of alfalfa. At a conservative estimate, 10 pigs per acre will gain 100 pounds each during the season from May to September, and 1000 pounds of pork can not be produced so cheaply on any other feed. The pigs will come out of the field in autumn in capital condition to fatten with corn or small grain. The alfalfa in a hog pasture should be mowed once or twice during the summer or whenever it begins to get hard and woody. This will provide plenty of young and tender herbage, which is more nutritious, weight for weight, than forage from the older plants, and if the swine are provided with this food in its most nutritious condition, their growth will be most rapid. They need to be provided with an abundance of fresh or running water in the pastures."

The farmer who raises alfalfa not only provides an excellent quality, as well as a large quantity, of feed for his domestic stock, but in the mean time is enriching his fields and doing

(Continued on Page 439)

BY J. W. MILLS, ONTARIO, CAL.

THE WET END OF THE ORCHARD

It is a common idea that the lower end of the orange grove must necessarily receive an over abundance of water from the overflow of the numerous furrows. It is true that those places must get some overflow, even with the best system of irrigation, though a competent man with a good flume or pipe line will waste practically no water. It is required of the irrigators on the Arlington Heights property at Riverside, that no water shall run to waste from the lower ends of the furrows or any place else. This kind of work requires well built pipe lines and flumes and an experienced man.

Under ordinary circumstances, there is considerable waste water that collects at the lower end of the rows and it is the proper place to plant such fruits that the family may need for home use, provided it is not too far away from the house. With the exception of strawberries, which require water oftener than orange trees are irrigated, all kinds of berries should do well in such situations.

The Austin dewberry, commonly known as "Gray's Gardena berry," is perhaps the best of that class. The Cuthbert raspberry is the best red raspberry and does well in nearly all parts of California. The Logan berry is still considered one of the best of its class. The Phenomenal is coming into prominence and is being more widely planted every year. The Mammoth blackberry seems to have fallen in the estimation of those whom we know to have tried them. There is perhaps no all purpose blackberry that will compare with the Early Crandall. A few vines of Erie planted with this will give berries over a long period.

Some years ago we came across a blackberry patch that was located at the lower end of an orange orchard where it would catch the overflow water, and the owner found it decidedly inconvenient to cultivate it properly after each irrigation, so he planted it to sweet peas early in the season so that they would be full grown by April or May, by the time the berry bushes began to leaf out, the peas were about out of bloom and were tramped down and left as a mulch without cultivation. At every irrigation the water would run under the mulch and keep the ground continually moist. We recently visited the patch and found that the bushes were thrifty and strong and the owner said that he had been picking as fine blackberries as he would wish from them every year. He had been following up the practice for four years and was perfectly satisfied with it. The sweet peas grew about four feet high every year and after they were tramped down they matured enough seed to furnish the following crop without sowing seed artificially.

The canes in this patch looked healthy and there was no sign of frosted canes or any disease. There has been some complaint this spring of dead canes among blackberry bushes, the appearance of which would indicate sunburn after freezing. This may seem strange, but walnut trees three years old have been known to lose their entire tops from this cause and blackberry bushes in the same vicinity had the same appearance. A fall growth of sweet peas among the bushes would cover them and protect them from the frost and sun after the leaves had dropped, and at the same time lay up a good supply of nitrogen in the soil. This is an item for those who are disposed to experiment a little with new methods. We would not advise following this plan all over a large plantation, but it would not end disastrously if tried on a square rod or two, or on half of the garden row.

* * *

It has been considered, until recent years, that winter apples can not be grown successfully except near the coast or in mountain altitudes which afford cool weather during the hot summer days. Recent observations show us that with frequent and plentiful applications of water, good winter apples may be raised in our warm valleys. In such situations such varieties as Red and White Astrachan, Early Ripe and Bellflower are at home, but they improve with frequent irrigations. Red Astrachan is very apt to crack when about ripe and the loss is quite heavy from this trouble some seasons. White Astrachan does not act that way, but it is not such a regular bearer as the red kind. Early Ripe is very prolific and never cracks, but is not of as good quality as the Astrachan.

White Winter Pearmain is the best winter apple so far tested for the interior. Rhode Island Greening is one of the best fall cooking apples. An abundance of water will make these varieties compare favorably with northern or coast grown apples.

Plant the pears in the wettest corner. Plums on Myrobalan root will do there also. A good selection of pears for home use: Andres, Seckle, Bartlett and Cole's Seedling.

There are various varieties of exotic fruits that are occasionally tried, but it has been our experience that none of them compare with a good apple or peach. Currants are often tried in Southern California, but it seems useless to try and raise this fruit where oranges thrive.

THRIFT ON THE FARM.

"We are sometimes asked," says National Stockman, "Why it is that European farmers can farm with profit, land worth from $200 to $500 per acre, while land here equally rich and worth only from $50 to $100 per acre pays but a small profit on the investment. There are many reasons why this is so. In the first place labor abroad is much cheaper than in America. However, this is to some extent offset by labor-saving machinery in this country. Possibly the real explanation is found in what might be called the intensive system by which the land is farmed. Every inch of the soil, as it were, is made to produce, no part of it being given over to the growth of weeds or anything but economic crops.

"While there is no more prosperous farmer in the world than the farmer of America, yet there are many belonging to this class who are strangers to the common principles of thrift. High-priced machinery is left out of doors and thereby injured more in one season by the elements than would be the case by 10 years of use. Fences are not required until new ones are required. Weeds are not only allowed to grow around fences, but most of the land is thickly seeded down with these pests. In many cases it would not be too much to say that the growth of weeds cuts the crop in two. It is true that it is difficult sometimes to get sufficient help to look after the odds and ends of things, yet it is often apparent that men are attempting to do too much. Better returns could be made from less land if it were properly handled. Large business concerns could not be run on the principles employed on many farms, there being too large a percentage of waste. To illustrate how economically some of the large business plants of the cities are run we cite the case of a huge packing plant that requires all office e ployes using lead pencils to return t stubs to the manager in order th these may be sent to the factory fr which the original pencils are p chased. Ordinarily who would thi the stub of a lead pencil of any valu And yet when several hundred penc are in daily use it can be seen at on that the graphite in the remnants these pencils is after all of some val It is in the saving effected in lit things like these that enhance the pr its in large concerns, and we see no re son why many of the principles e ployed are not applicable on the far While there will be no lead pencils return, or anything of this kind, y the same business instinct that su gested saving the lead pencil stu will see on every hand an opportuni to effect a saving."

A company of Porterville citize has brought into the State a fine lot saddle horses, purchased from owne in the east.

The Sacramento Valley Developme Association is preparing for an e tended trip through the entire valle

ASK THE MAN...

Who travels frequently betwee the Pacific Coast and the East what road he generally uses an prefers. The chances are that h will tell you—"Santa Fe." There a quality about the service and a attractiveness in the fast time an fine equipment of this great lin that appeals to the freque traveler. He wants the best an knows by experience where to fin it.

The occasional traveler—wh perhaps takes a long journey onc in several years—may profitabl follow the other's example an select the Santa Fe for his Easter trip. The service leaves nothin to be desired—it is the best po sible—in all respects. Ask th agent at Santa Fe station for in formation and a tourist car book let—if economy is an object. I not it will interest you anyway He can tell you about the palac cars too.

ASK THE MAN

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Pump Jack Extra $12.00.

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Yours truly,
August O. Graft.

THE BEST ENGINE MADE FOR IRRIGATION AND ALL OTHER PURPOSES. WRITE US FULLY WHAT YOU WANT TO DO AND WE WILL GIVE YOU FULL INFORMATION. WE HAVE HAD 16 YEARS EXPERIENCE AND WILL BE OF GREAT ASSISTANCE TO YOU IN INSTALLING YOUR OUTFIT.

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THE CHICAGO ENGINE It is a complete power plant all ready to run, made in four sizes, 2, 3, 5 and 8 h. p. They are easily moved from place to place and always ready for all kinds of work, rain or shine, cold or warm, wind or calm, winter or summer, day or night. The only perfect and reliable power for pumping water, grinding and cutting feed, sawing wood, running churns, washing machines, forges, drills, creameries, etc., etc. There is no limit to what can be done with the **Chicago Engines** up to their rated power. **A 2-horse engine will pump more water than 10 men and at one-tenth the cost.** It will pump more water in any given time than a 12 ft. wind mill when being driven to its fullest speed. With a wind mill you must depend upon the wind, and when you require water the most is when the wind blows the least. With the gasoline engine you can start it at any moment. You will always have water. It is different from the wind mill not only in the above respect, but you can detach it from your pump and **saw a cord of wood an hour, grind 15 bushels of feed per hour, cut 2 to 4 tons of fodder per hour and do any other kind of work that a power can be used for.** It costs but little, if any, more than a first class wind mill. The gasoline engine is taking the place of the wind mill everywhere. Larger sizes do proportionate work.

THE EXPENSE IS ALMOST NOTHING compared to the amount of work done. Only one gallon of ordinary stove gasoline is required for each horse power for a **full day of 10 hours,** and the less power you use the less gasoline you consume. You can't hire a man for ten times the cost, you don't have to board the engine, it costs nothing to keep when not in use, never loafs and is always ready; no danger of fire or explosions, no coal, no ashes, no dirt. Can be run anywhere by anyone; requires no engineer or fireman. Anyone with any amount of work to do **simply cannot afford to do without the Chicago.** Never before in the history of the world has a high grade engine been offered at the low price for which we are now selling the Chicago.

A First Class Engine at Manufacturers Prices

We are able to sell this high grade engine at the low price that we do for the reason that we are the largest manufacturers of gasoline engines from 2 to 8 horse power of any concern in the world. They are made from the very best of material and by the very best of mechanics. We have special machines for making every single part of the engine, therefore every part is perfect in every way. We have spent 15 years in building and perfecting gasoline engines. The Chicago as now made is the perfected product of 15 years of experience. **We save you from $50 to $150** on an engine, according to size.

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The Chicago Gasoline Engine Co.,
57 N. Jefferson St., Chicago.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

THE FIRST BEET SUGAR FACTORY IN AMERICA.

The satement has been often made that the first beet sugar factory in the United States for the purpose of manufacturing sugar from beets was established in Alameda County, at Alvarado. It is well to give honor where honor is due, and as the Mormon question is now so prominently before the public, it may not be uninteresting to learn that to that peculiar people belongs the honor of having established the first beet sugar factory in this part of the world. It was the desire of the Mormon leaders to make their people independent of all the world. They were then out of the world and desired no intercourse with it. To this end all sorts of manufacturing establishments were established, and among others a sugar factory was erected as early as 1853, the machinery for which was brought from Germany. But when it was set up no one knew how to operate it, in spite of the fact that they were duly blessed and ordained and set apart to make sugar from beets. The first attempt at sugar making was in the fall of 1854. A large crop of beets had been grown, and the syrup placed in the evaporating pans, but in spite of all it would not become sugar, and at last the whole batch was burned or spoiled in the endeavor to refine it. Here was a problem; it would never do to waste so much good property, and at last it struck Brigham that if it would not make sugar it would make good rum, and the whole batch was distilled and sold by the church authorities to the saints at eight dollars a gallon. This paid so well, that no further attempt was made to produce sugar, but the authorities went largely into the liquor business and started the first whisky trust, for every one outside of the heads of the church were frozen out of the liquor business. Afterwards the old sugar building was converted into a paper mill where the paper for the Deseret News, the church organ, was manufactured. But for years, and probably to this day, the section where this factory was located was known as the "Sugar House Ward."

* * *

ORANGE PLANTING IN THE NORTH.

Reports being received from the different sections in the northern counties in which citrus fruits are grown, all indicate unusual activity in planting this season, and very large new areas are being set out in Butte, Tehama, Placer, Tulare and Fresno counties. With the present poor market for citrus fruits in full view, the growers in this part of the State claim that they will not suffer, as they are able to get their fruit in the market and all disposed of before the holidays are over, and are therefore sure of good prices, however dull the later markets may be.

* * *

A PALM AVENUE IN SACRAMENTO.

Sacramento has taken a sudden start ahead recently, and has taken a leaf from the note book of Southern California. She has started in to beautify her streets and to give them that tropical appearance which so delights the heart of the tourist. M street—the street which runs directly into the front of the capitol building—is to be planted its whole length with palms, and the work has been commenced, Governor Pardee setting out the first tree. This work has not been started without great opposition and much tribulation, but it has been started, and will prove the entering wedge which will finally make our capital city, as it should be, one of the most attractive of California towns. It is already a beautiful town, but it has no uniformity. Each man set out such trees as suited him best, and most people coming from the East, have set out deciduous shade trees until it has come to be thought that that is the proper thing to do, and during the winter, when the city should be green with foliage, the trees are bare, and look too much like an Eastern city, to be noticeable or attractive to the Eastern visitor. Sacramento has soil, climate and conditions for a luxuriant semi-tropical growth, and it is to be hoped that she has commenced a reform in this direction in earnest.

* * *

A MOVEMENT AGAINST DISEASED FRUIT.

There seems to be a very commendable disposition on the part of the fruit growers in many parts of the State to cultivate the San Francisco market. It has been too much the case heretofore that fruit that could not be shipped or sold anywhere else was considered good enough for the San Francisco market. The result has been that this has become a very poor market, when it should be one of our best, and commission men have been blamed for it, while the fault has been largely with the shippers themselves. The apple growers of Watsonville have taken a vigorous stand against making San Francisco a dumping ground for trash, and now Humboldt has followed the lead and the Horticultural Commissioners of that county are moving to have wormy and diseased fruit condemned by the Board of Health of that city. The move is one in the right direction, for the growers of good fruit are the ones who suffer from the shipment of culls into the market, as the market for good fruit is lowered by the offering of inferior stuff at any price it will bring. People who neglect their orchards, who will not spray or take measures to protect their trees from pests, are in every way a menace to the conscientious orchardist, and should be forced out of business, and this movement for closing our home market against orchard trash will do much toward it.

* * *

ASPARAGUS PLANTING.

In spite of the fact that the asparagus rust is doing so much damage in this State and that we have so far no means of staying its spread, there is no lack of faith in this vegetable as a money crop. During the present spring, in the lands along the Sacramento and San Joaquin rivers, and especially in the islands formed by those streams, there has been unusual activity in asparagus planting. On Andrus Island especially there has been unusual activity along these lines. There is little question but that asparagus, where soil and climatic conditions are favorable is one of the most profitable crops that can be grown in our State. At the present time one of the most important and extensive asparagus areas in the State, that of Bouldin Island, is entirely under water, and while the water is already receding, there will be very little done there in the way of asparagus packing this season.

* * *

APHIDS ARE TROUBLESOME.

The usual crop of spring complaints about aphids and their destructive work are coming in and remedies are being asked for. These pests are especially troublesome to the rose bushes at the present time, and the new growth shows masses of these nasty little bugs sucking the life out of every new twig, dwarfing the bush and spoiling the blossoms. It is a fortunate thing that this pest is one of the tenderest and most easily killed with which we have to contend; were it not, it would be one of the most costly and destructive of the whole insect family. They appear in enormous numbers, and apparently all at one time, as soon as the trees and plants upon which they live start their new growth in the spring. They are enormously prolific and were it not that they are kept in check by various agencies—by lady-bugs, by birds, by cold and wet weather, by the winds and other agencies, they would soon swarm over everything. Fortunately they are a very tender bodied insect, and perish by millions, but even then there are enough left to cause orchardists and florists a world of trouble. As to remedies, a strong stream of water dashed on them with a hose will wash off and destroy great numbers, and if repeated occasionally will keep them down. A spray of whale oil soap, or even common rosin soap, such as is used in the laundry, will be found effective A pound of soap should be dissolved by boiling in from four to six gallons of water, and be applied at a temperature of 100 to 120 degrees. The hardier plants will stand a stronger solution, while it should be even weaker for the more delicate varieties. A decoction of tobacco stems soaked in water is sometimes used, and indoors, or where it can be applied, tobacco smoke will kill them. A weak application of hydro-cyanic acid gas is effective, but if used too strong this is liable to injure delicate plants. After spraying with either the soap or the tobacco solution the plants should be thoroughly hosed with fresh water or they will be discolored. In the case of orchard trees, as plum, prune or apple infested with aphids, the rosin wash according to the following formula has been found the most efficacious:

Caustic soda (98%) .....1 pound.
Rosin ..... 6 pounds.
Water ..... 40 gallons.

The rosin and caustic soda should be placed in a boiler with sufficient water to dissolve them and be cooked thoroughly over a brisk fire for about three hours. Hot water should be added while the mixture is boiling, until there is the full amount required. Cold water should never be added while boiling, as it will precipitate the rosin, and no further boiling will cause it to become soluble.

A new pumping plant has been put in at Hermorn capable of irrigating 160 acres. The land will be planted to oranges.

HARVESTING ONIONS.

The onion crop must have intelligent care at harvest time if they are intended for a winter storage. They cannot be handled like potatoes and still remain in condition for winter use. Onions must be allowed to ripen naturally, in which event the bulbs will remain dormant until spring and retain their moisture inside the peel or skin. They must also be perfectly cured in the sun before they go into storage, which is best secured by allowing the crop to remain a few days in thin windrows after they are dug. Do not remove the tops until the crop goes to market. If they are thoroughly dry and cured the tops will so protect the onions that the danger of bruising will be largely overcome; also that of heating, either of which will greatly decrease their value as a market product. Sheep shears are a most valuable implement to use when topping onions. Don't cut too close to the bulb or it will be injured and will "leak" while in storage and thus cause others to become wet and spoil. Onions for winter use should be handled and stored in bushel crates made of lath, which can be piled in such a manner as to secure perfect ventilation; however, they will keep in fair condition in dry quarters when sacked in coarse coffee sacks, such as potato shippers use, that hold two and one-half bushels. Don't pile onions deeply, because the mass will be quite sure to heat and decay in a short time. Spread thinly on a dry floor where the damp night air can be excluded.

SAVE THE WATER.

In Southern California water is more valuable than land—far more valuable. This may be easily seen from the fact that a tract of land worth not more than $5 an acre is immediately worth from $100 to $250 an acre as soon as it has a sufficient supply of water for irrigation. Such being the case, it would seem that we should be more saving of the water we have, where it is worth about $2000 an inch.

Secretary Wilson, before the National Irrigation Congress at Ogden, last fall, called attention to the great waste of water used for irrigation. He showed that on an average one-half of the water taken out for irrigation is wasted in canals and lateral ditches before it reaches the orchard or field where it is used. He also showed that some irrigators use from two to ten times as much water as others without achieving better results.

It is not alone in the country that water is wasted. In our cities a vast amount of water is run down to the ocean, which might be utilized to irrigate some of the thirsty land lying round the city, that is now only utilized for hay or grain. By utilizing the system of septic tanks the sewage may be so purified that it can be used for irrigation without any offense. Why cannot this be done? It is claimed by some that the septic system has not yet been thoroughly proven a success. It is, however, in use in more than a score of American cities, while in England it has been thoroughly tested. It is also claimed that this water could not be utilized in the winter season. Why not, however, utilize it during the summer, and then let it run off to the ocean in winter?

Through the courtesy of Prof. F. W. Taylor, chief of the Department of Agriculture of the Louisiana Purchase Exposition, room "N", in the gallery of the Agricultural building, has been assigned as headquarters for Farmers' Institute workers.

Conducted by PROF. A. J. COOK, Claremont, Cal

THE ORANGE QUESTION.

The meeting of the Claremont Pomological Club last Monday was one of exceptional interest. The recognized candor, ability, experience and good judgment of such men as Frank L. Palmer and Judge Franklin Blades would always attract attention whatever subject they sought to discuss. No wonder then that all were greatly interested as they gave their views of the present condition of the orange industry. As always Mr. Palmer's paper was very carefully prepared, and I hope will be published in the Cultivator. To know what such men think will help to a correct solution of the problem before us.

Mr. Palmer had only the strongest compliments for the Exchange. It had done a grand work and he could not say too much in its favor. He thought the agency was a mistake. While the present evils were in part due to overproduction, and still more to the severe winter, yet he feels that the principal cause was the fact that the agency had antagonized the trade East. He was positive that the attempt was made to crush the independent shipper and this rightly aroused enmity, and was the principal factor in the demoralization of the market. He also questioned the fitness of the "Moses" that was leader, and had decided convictions that the salary was far in excess of reason. He would have a return to the old Exchange, which he would have solely for the small growers, as he believed it would be better for all for the large growers to remain independent. He would have only those with holdings up to 40 acres in the Exchange, all others he would have market independently.

Judge Blades was as pronounced as was Mr. Palmer in his commendation of the Exchange. He differed wholly with Mr. Palmer in the opinion that all should not be in the organization. It must secure all to effect the wisest distribution, the steadiest market, the best development of the market, the cheapest supplies, the best and most even pack, and that perfect unification of the whole business which the best success demanded. While he did not condemn the management of the agency, he did think that the salary was far too high.

The writer, as president, urged against a panicky spirit. It is a time for calm dispassionate discussion. He feared we might be tempted to underrate real merit. All praised the Exchange. Mr. Naftzger was the head of that organization. He doubtless had most influence in its phenomenal success. It did a business of more than $40,000,000 with a total loss of less than one-twentieth of 1%. They had but three or four suits at law in seven years, and the average operating expense did not exceed 3%. It is not strange that those who have been closest to Mr. Naftzger believe, at least, in his business ability. Mr. Naftzger urged at our institutes that all join the exchange. He predicted that there would surely at some future time, through overproduction, and other misfortune, he would now say zero weather, a drop in the market, and said we would need then to be all in one solid phalanx to keep from disaster. Strange, but he could not persuade all and so favored the agency so as to secure a stronger combination and more perfect co-operation. He now says that he believes that the move was wise. He certainly knows as much as any one of the matter. Is it not possible that circumstances that no human power could have averted, have brought our ill fortune? Is it not possible that with less perfect organization, the evils might have been even greater? It is true that the expense of marketing in the Union part of the agency compares illy with the same in the exchange, but the growers would not join the exchange, though most said it was necessary for the life of the industry. Mr. Naftzger says emphatically that they did not strive to crush the independent shippers. His salary does seem very large. Yet large corporations pay even more for men to fill places of less responsibility. The directors of these corporations are business men of large experience, and surely they are only anxious for the best success. It is easy to find fault, to accuse, to impugn motives, but the speaker felt that he had too little real knowledge to indulge in any of them. All kinds of business have their trials, which are often terrific. The wise man at such times keeps very cool, acts very cautiously and generally comes out with flying colors. It will be true with the orange growers at this trying juncture.

* * *

THE RAIN.

We have nearly one-half inch of rain. This gives us nearly eleven inches, and we believe the end is not yet. These late rains do wonderful good. We can count on a good, or at least a fairly good grain crop, and the let up on irrigation is no small gain. As stated in the last Cultivator, these late rains mean a big help to the bee keeper. We can almost count on a honey crop, with a favorable spring, which is almost sure, and with the further rains that are almost sure to come, the honey crop may be quite satisfactory. These rains also help to refill the great underground reservoirs, and thus give further cause for grateful acknowledgement.

* * *

WEB WORMS.

Mrs. J. L. H. sends a twig of what she does not say, with many caterpillars in a web. Some of the insects are dried up, and others are shown by the cast skins. Those look like the Tent caterpillars of the East, and as that genus, Clisiocampa, is found in our State, it may be one of these spinning insects. The plant looks like the common Mountain Mahogany, Cercocarpus, though as it has but two little leaves, I can not surely say that it is that species. If it is that would be further evidence in favor of the species being one of the tent caterpillars. One species in the East is very harmful to the apple and the wild cherry, often stripping these trees of their leaves. Another, the Forest Tent Caterpillar, is very bad on the cherry and a few years ago was very destructive to the sugar maple. Mrs. H. wishes to know whether these caterpillars will injure the trees. They surely will. The tent makes it easy to see them and so they are cheaply destroyed. I think the best way is to don an old glove and crush them with the hand. I wish Mrs. H. would send me a few in a box with a few leaves, and I will say positively what they are. I wish correspondents would always tell what the plant is that is being eaten when it is possible. I am very eager to know of this insect and the plant, as it is new to me.

* * *

THE LIVE OAK MOTH.

W. Stanly Davis, Santa Barbara, sends me the Live Oak moth in all stages and asks many questions that I am glad to answer. There are two broods of this common moth. One comes and does its work in October, and the other is upon us now. I have seen both broods at work here at Claremont, but never knew them common enough but one year, 1895, to do any very great harm. The moths are here in fall and spring. They are gray, expand about an inch, and have a very conspicuous feathered antennae. These lay small spherical yellowish eggs in groups on the leaves, and from these come the striped caterpillars, with their sixteen legs, which do the eating. When full grown these are almost one inch long. They pupate without cocoons, and are very prettily marked as pupa with black, yellow and green. They resemble the chrysalids of butterflies, not a little. They work on other oaks than the live oaks. Spraying with Paris green is the remedy. Putting cotton batting around the tree trunks will do no good at all. As these insects are so common and widespread, working in all parts of our State, I will give an illustrated article on the insect at a near date

* * *

GREEDY SCALE AND PALMS.

Mr. Geo. H. Dunlop, Hollywood, has some palms that are affected with the Greedy scale. He desires to know of the amount of cyanide or the kind of spray that would be safe and effective. It is impossible to say. The kind of palms and the state of health has so much to do with it. I suggest that he ask the Horticuultural Commissioners to come and see them and advise with him.

* * *

INSECTS.

Subscriber wishes to know what a little green bug or fly or worm is that is working on his rose bushes. I can not tell, but will advise if he will send specimens. I presume they are aphids. If so they will soon disappear, killed by their natural enemies.

* * *

BEES AND ALFALFA.

D. S. Van Dike, Dagget, asks how many colonies of bees can be profitably kept on 30 acres of alfalfa, and when the latter should be cut to secure the best results. I think he could keep 100 colonies, if his neighbors would let him have the field. The alfalfa should be left until the blossoms begin to wither. This will give the bees a better harvest, and the hay will be nerly as good. The experimental stations have proved this latter fact. The five cuttings make alfalfa a superb crop for bees. Mr. V. has a bonanza in his bees and alfalfa.

* * *

POISONED RAISINS.

W. F. Rocke, Armora, asks how we poison raisins for gophers, etc. Use the fine crystals of the strychnine, cut a small hole in the raisin, and insert a very small amount of the poison on the point of a knife blade. We can not be too careful. One of our brother fruit growers is mourning the death of a dear little one. The bottle was not put up. We must never forget in such cases.

Between five and six thousand acres of beans will be planted this year on the San Joaquin ranch. Planting is well under way.

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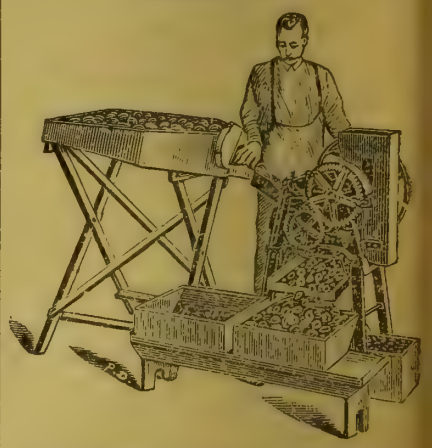

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Thousands of tons of apricots have been satisfactorily cut and pitted with these machines.

It Does Not Push the Pit Through the Fruit

But holds the pit firm while the fruit is carefully removed without being bruised. The pits are delivered separate from the fruit.

The Advantage of This Machine Is Very Apparent

As one machine and one man practically represent fifteen or eighteen cutters. This perfect machine, which is guaranteed, is the result of 12 years of experimenting and improving. These machines will be rented for the fruit season for fifty dollars each; for sale at $150 f. o. b. Los Angeles. Address

The BRIGGS-KNIGHT Mf'g Co.

336 E. Second St., LOS ANGELES, CAL.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

LANDSCAPE AND NATURE STUDY

Many years ago, that eminent horticulturist and landscape gardener, William Saunders, wrote for a government bulletin the following: "It can not be too forcibly urged upon the attention of those who are intrusted with educational institutions that one of the most certain means of encouraging a desire for studies in natural history, and forming correct principles of taste in young minds, is that of landscape embellishments of school houses and college grounds. This has become one of the greatest wants in existing systems of education and can not long remain neglected."

During the past few years there have been many notable examples of such planting, even within the borders of our own State. While all will agree with Byron that nature "is fairest in her features wild, where nothing polished dares pollute her path," yet it is not given to all to commune with nature in her wildest moods, nor is it always best—it is not possible to find within reasonable compass such a valuable collection of plants and natural effects—for nature study—as may be wrought in an ordinary school or college grounds. This is indeed a broad statement and should perhaps be qualified by stating that a rational and economic disposition of the allotted space was in mind when this statement was penned. In a climate such as ours, where nature study may go on throughout the year without interruption, we should be in the van, for in less favored climes the student often has forgotten by spring that practical instruction given him the previous summer. It is very satisfying to note that several of our State institutions are intending to plant their grounds on a large and well defined plan and of this work we shall give notes in another issue.

* * *

MEDICINAL WEEDS.

A recent government bulletin on "Weeds used in medicine," makes the following statements: "It is a matter of interest, primarily to the farmer, that certain of the well-known weeds now either generally or locally infesting the country are sources of crude drugs, at the present time obtained wholly or in part by importation from abroad. Roots, leaves and flowers of several of the species most detrimental in the United States are gathered, prepared and cured in Europe * * * Hence it appears probable that while weeds can hardly be made desirable, still in his fight to exterminate them the farmer may be able to turn some of them to account." The bulletin contains full directions for gathering and curing leaves and herbs, roots, barks, flowers, seeds, etc., as well as descriptions of the plants.

Among those common in California are: Dandelion roots (Taraxacum); during last year 115,522 pounds were imported into the United States, at from 4 to 6 cents per pound. Of docks (Rumex) we import annually about 125,000 pounds at 2 to 8 cents. We buy abroad each year 250,000 pounds of couch grass (Agropyron or Triticum) at 3 to 7 cents. Our imports of mullein flowers (Verbascum) are 2½ tons annually and they cost from 25 to 75 cents per pound. This is quite an item, though mullein occurs in California only in spots, being entirely a foreign introduction. The "Gum", or "Resin plant" (Grindelia robusta), is very common in most of our States and the flowering tops bring from 5 to 12 cents per pound. Though used in many ways, one of local interest is for external application in cases of poison oak. One of our most common weeds is the wild hoarhound (Marrubium vulgare); it is to be found almost everywhere, yet we import each year, at a price of 3 to 8 cents per pound, over 125,000 pounds of the dried leaves and tops. The yarrow, jimson weed, poison hemlock, wormseed, black and white mustard and several others are in the list of profitable weeds. All interested in the matter should send for Farmers' Bulletin No. 188, "Weeds used in Medicine."

* * *

INSECTS AND FLOWERS.

Late investigations of the Darwinian theory that the color of flowers was designed to attract insects has vindicated the studies of the great naturalist in that direction. These investigations, which have been carried forward on a large scale, from many stations, prove the following: Among the day-flying insects the higher types have sharp sight and are attracted to the flowers by their color, while only the lower forms have a low power of sight and are more dependent on smell. Night-flying insects, and many of the flies, and some beetles are also attracted chiefly by smell. The exception to the general rule is suggested by the very intelligent insects, such as the higher bees, which have enough memory and observation to go to flowers that furnish honey best, and to avoid those which, though highly colored, are poorly supplied with honey. Among other curious experiments, the investigator (Prof. Andreae) succeeded in attracting less intelligent insects to brightly colored artificial flowers, which they visited oftener than they found their way to strongly scented but hidden natural flowers.

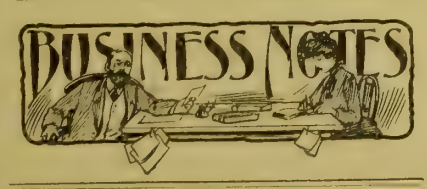
THE VALUE OF ALFALFA.

(Continued from first page.)

it with a fertilizer which he could not begin to purchase in the market for anything like the cost his seed and labor have been. When this crop is plowed under, or is fed to stock, and the manure returned to the soil, it furnishes a large percent of nitrogen necessary to the growth of small grains, grasses, and root crops, and which they can not extract from the air nor get in any way except by fertilization.

A few simple suggestions will aid the farmer who does not understand fully how to put in and cut a crop of alfalfa in California. Plow the land deep; harrow until fine; sow clean seed; sow in drills; cut for hay when the flower appears. For hay crop sow 15 to 25 pounds of seed to the acre. For seed crop sow from 12 to 16 pounds to the acre.

If a nurse crop is sown with alfalfa be very sure the seed is clean; often the weeds sown in a nurse crop destroy the alfalfa. Weeds are the enemies of alfalfa.



The Smith Manufacturing Co. of San Jose announce this week their ability to supply fruit growers and packers with graders, processors, dippers, presses and other packing house appliances. The Messrs. Smith have for years been practical workers in this kind of machinery and both thoroughly understand the needs of the deciduous packers. Many improvements have been made in these appliances and the Smith Company are better than ever fitted to install machinery in either large or

* * *

1500—15,000—In A. R. Coulson Co.'s ad. last week the type made the statement that "there are 300 pounds of Armour's meat meal and 150 pounds of other animal foods to 15,000 pounds of other feeds." It should have read "there are 300 pounds of Armour's meat meal and 150 pounds other animal foods to every 1500 pounds of other feeds," instead of 15,000 pounds.

That shows what nothing amounts to when it gets in the wrong place. Three hundred pounds meat meal in a ton is right and gives a good food for poultry.

That's Coulson's kind.

* * *

Will Be Used at World's Fair.—There is established a model poultry farm at the St. Louis exposition which proposes to show to poultry fanciers a model in construction and in methods of handling. Different breeds will be kept and as near perfect examples of each breed as possible will fill each pen. Careful feeding will also prevail, and regarding this, the company—a corporation—has written the Chamberlain Perfect Chick Feed people as follows:

Model Poultry Farm, Concessionaire
St. Louis World's Fair 1904.
St. Louis, March 28, 1904.

Mr .W. F. Chamberlain, St. Louis, Mo.

Dear Sir: It gives us pleasure to state that we have decided not to use any other prepared chicken, pigeon or poultry food than Chamberlain's brands. We are very glad to be able to tell you that of the many samples forwarded for inspection by out of town manufacturers none was found quite up to the Chamberlain standard. While we have had to send away from our home city to get the best fowls of many varieties, we have learned after careful investigation that St. Louis as represented by your factory, is at the head of the procession in poultry foods.

We beg to advise you that a number of birds will be installed in the Model Farm at the World's Fair grounds by April 10th, and we request that you deliver the first shipment of assorted foods before that date.—Model Poultry Farm Co., by R. M. Curtis, Secretary.

* * *

Kai—In Mr. Braunton's department recent reference was made to the Kai, or South African apple as being fine for use in jelly making. This apple is now offered to planters by Chas. M. Peck, of Glendale.

The weather and crop conditions for the past week are summarized by Alexander G. McAdie, as follows:

The weather during the week was generally cool and cloudy, and showers were of frequent occurrence in all parts of the State. The rain was of great benefit to crops in the central and southern sections. Snow fell in the mountain districts.

Grain and hay are making steady improvement and growing rapidly. The outlook for good crops appears better as the season advances, especially in the southern sections. In some portions of the overflowed districts in Northern California a quite considerable part of the grain crop was washed out and ruined, but the remainder is said to have been benefited by the overflow and heavy rains and will produce fully an average yield. Sugar beets, beans and hops are making good growth and appear thrifty. Crops of all kinds are somewhat later than usual, owing to the continued cool, wet weather. Green feed is abundant and of good quality, and stock doing well

Cherries in the Vacaville district are reported very late in ripening, and deciduous fruits in all parts of the State are backward, though in good condition. Apricots, almonds and peaches will probably be light in most sections, and apples in the vicinity of Hollister will fall below the average, but other varieties of deciduous fruits are expected to yield fully average crops. Vineyards are in excellent condition. Oranges and walnuts are making satisfactory progress.

Make Your Own Fence...

We will furnish the wire at 2c per pound, No. 14 guage. Weighs about 1¼ pounds single strand per 100 feet. Figure it yourself and get a good fence cheap. You make mesh or openings to suit requirements. This is galvanized wire that has been used for other purposes, or it would be worth two or three times our price. Remit for amount required and get quick shipments. No quantity under 100 pounds supplied.

Lee Chamberlain & Co. Station C 105 North Main St. Los Angeles, Cal.

B. & K. Compound

Destroys all scale and insects—guaranteed. Done by an exposed gas, no tents needed. One Sticky Bandage will catch all crawling insects and will last from eight to ten months in the open air without dryiug. For full information, write to

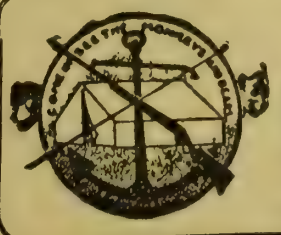
B. & K. Compound Co.

524 Calleaghan Building San Francisco

WOODBURY Business College.

New College Building, finest equipments. Strongest t-aching force, superior bookkeeping shorthand and tyewriting methods. Write for illustrated College Journal. E.K. ISAACS, Pres

809 S. HILL ST., LOS ANGELES, CAL.



Wm. H. Hoegee Co.

MANUFACTURERS OF

Lemon Curing Tents, Fumigating Tents, Fruit Picking Bags, Canvas Irrigating Hose and Everything in Canvas Goods at Factory Prices ...

Write for further information. Send for catalog.

138-140-142 S. MAIN ST. LOS ANGELES, CAL.

Small Potatoes

result from a lack of

Potash

in the soil. Potash produces size and quality.

We have valuable books which explain more fully the fertilizing value of Potash. We will send them free to any farmer who writes for them.

GERMAN KALI WORKS,
93 Nassau St., New York.

Meyer Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast.

WIRE FENCE

CLOTH GOODS · NETTING · WORK · BARB WIRE · HOG · COW · HORSE · SHEEP

WEST COAST WIRE & IRON WORKS
19 FREMONT ST. SAN FRANCISCO

20,000 Citrus Trees

Now ready for delivery. Washington Navels and Late Valencias. First-class, reliable stock. Get our prices before buying.
POLLARD BROS.
Alhambra, Cal.

JURUPA NURSERY CO.

Growers of Deciduous, Citrus and Ornamental Trees and Vines

THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.

SEND FOR PRICE LIST AND CATALOGUE

Jurupa Nursery Co. Riverside, Cal.

THE
Vernon Nursery

4524 CENTRAL AVE.,
LOS ANGELES, CAL.

Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.

We still have a few of the finest two-year-old walnut trees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

A. YARNELL.
PROPRIETOR
4524 CENTRAL AVENUE
LOS ANGELES, CAL.

Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

MISCELLANEOUS.

A company of capitalists has been organized at Redlands to build an opera house to cost $23,000.

The Bostonia Fruit Growers' and Packers' Company has been incorporated with a capital of $200,000.

Between $7,000,000 and $8,000,000 are annually expended in support of the public schools of California.

The bee men of California hail with delight the recent rains. They will produce abundant bloom and a big honey crop.

A monster celebration is being planned for Hollywood on the occasion of the completion of the Hollywood and Los Angeles boulevard.

The highway that it is proposed to construct by the El Camino Real Society will run from the Mission of San Diego to the Mission Dolores in San Francisco.

Word has been received at the State Board of Examiners that $51,000 worth of Merced county bonds, which will net the State about 4 per cent, have been purchased.

Fortified by official reports of tests made by the City Chemist and Bacteriologist, inspectors of the health office of Los Angeles are preparing for a new pure food campaign.

The big pumping plant recently installed at Spring Brook by the Riverside Water Company was put into operation, Friday last, with the result that nearly 250 inches of water were added to the irrigation supply of that city.

The Washington Veneer Co., of Puyallop, Washington, has purchased 500,000 feet of spruce lumber, to use in the manufacture of berry boxes and crates. Their first work will be upon the 300,000 crates for the Puyallup and Sumner Fruit Growers' Association.

The Southern Pacific Railroad company has a colonist scheme which looks to securing colonists from overcrowded cities. This means that there are many with agricultural knowledge who can apply it profitably, but are handicapped by want of funds to purchase the land, and the result is they often become part of those dependent upon their wits to make a living.

The different transcontinental lines with offices in San Francisco have brought suit in the Superior Court for an injunction restraining the members of the American Ticket Brokers' and Guarantee Ticket Brokers' Associations from handling the tickets issued to visitors to the Methodist Episcopal Conference at Los Angeles in May, and to the National Association of Retail Grocers, to be held in that city in the same month.

The Retail Fruit Dealers' Association of San Francisco, composed of men who retail fruit in that city, and which has been in existence for about two years, is threatened with disruption, and several of the members have already left the organization. The trouble seems to lie in the fact that a large number of the members are of the opinion that the association is of no benefit to the trade in particular, and that the fund created by the imposition of dues and fines is put to no practical use.

The annual meeting of the California Canners' Association was held in San Francisco recently. With one unimportant exception, the new officials are the same as last year. The annual reports showed that the company's sales during the year just closed were about $1,000,000 larger than in any previous year. The policy of the sales department in adopting improved methods in distributing the products of the association seems to have been successful. The carry over of canned goods and materials is much less than usual.

"If I could run the business of California as my own business, said Gov. Pardee at Oakland, the other day, I should reform the revenue and taxation system. New York State raises only 8 per cent of her enormous revenues by direct taxation. The other 92 per cent comes from the franchise tax and other taxes on corporations, and other matters. Many States raise no direct tax for support of the public schools. But in California, the State government pays nearly one-half of the cost and does not begrudge it.

The board of trustees of Stanford University have adopted some radical changes for the future management of the school, the most notable being the stringent limitations put on the hitherto unrestricted powers of President David Starr Jordan. The new regulations provide for an advisory board composed of nine professors, to be elected by the faculty council. Practically every act of the president in regard to the faculty appointments and dismissals is subject to the approval of the advisory board before being transmitted to the board of trustees.

Rufus P. Jennings, executive officer of the California Promotion Committee, in his address, delivered at the dinner given by the California Promotion Committee last week, stated that the committee has distributed 900,000 books on California; has written more than 100,000 personal letters to inquirers, has published California numbers of eastern newspapers. Two hundred articles from the committee, of 2000 words in length, have been published in papers, whose aggregate circulation is 20,000,000. Twelve lecturers have toured the east. The committee has been in existence but twenty months.

On Saturday night, last week, four hundred representative business men from all parts of the State gathered to participate in the dinner given by the California Promotion Committee, at the Palace Hotel, San Francisco. Gov. Pardee, and many other prominent men from various sections of the State made addresses. The keynote of the gathering was a united State and a united effort to call the attention of the world to the natural resources of California. Other ideas prominently brought out were the necessity of presenting reliable information, without sectional prejudice; also the desirability of breaking up large land holdings and the attraction of small farmers. The statement was made that during the past year over 40,000 letters of inquiry were received and all received personal replies.

For Sale

4000 W. Navel Orange Trees, also 1000 Live Oaks.

Enterprise Nursery Pasadena, Cal.

KAI--SOUTH AFRICAN APPLE

Something new. I have for sale a few hundred plants of the Kai or South African Apple. Hardy as an orange tree. Grows to a height of eight feet, bears the 2nd year. Fruit makes finest jellies and preserves. Price 15c to 25c each
CHAS. N. PECK GLENDALE, CAL.

For Sale Cheap

Four hundred fine, large, clean Valencia Lates and two hundred Washington Navels, to close out my nursery. 40c EACH.

R. L. Rutherford Highland, Cal.

BERRY PLANTS

Gray's Gardena Dewberries. These berries are in the lead. Very early, best quality, heaviest bearers and good shippers.
For descriptive list address
W. J. EMBREE,
Rural Box 61, El Monte, Los Angeles Co., Cal

Strawberry and Dewberry Plants

Large stock of good, thrifty plants on virgin soil. Arizona Everbearing and Brandywine Strawberries and Gray's Gardena Dewberry. All eastern stock.

A. E. Harrington Montebello, Cal.

Wagner's Nursery

PHONE SUBURBAN 108 PASADENA, CAL.

Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

CITRUS NURSERY STOCK

Valencia and Washington Navel Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.

PERRY LEWIS TUSTIN, CAL.

AGENTS WANTED

Our scales make a good line with specialties implements, machinery, mill supplies, nursery stock, separators, foods, etc. Fine catalogue, liberal contract, no expense, no experience. Write for full particulars. Act Quick
OSGOOD SCALE CO., Binghampton, N. Y.
203 Central Street

Closing Out!

FRUIT TREES

Apple and Peach in varieties
Soft Shell Walnuts

1=2 Regular Price

.... PACIFIC NURSERY CO ....
WHOLESALE AND RETAIL
1008 E. 32d St. Tel. Home 7438
750 S. Spring St. Home Tel. 9012

THE "BOSS" TREE PROTECTOR

Made of Yucca Palm

Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
24 inch long	15.00	per 1000
30 inch long	17.50	per 1000

Agents Wanted Everywhere

YUCCA MANUFACTURING CO.
450 Santa Fe Ave. Los Angeles, Cal

Citrus Seed Bed Stock

Pomelo and Orange.
Fine Clean Plants.
Grown in our big tent house.

B. C. BENNER, Box 13, San Dimas, Cal.

Orange and Lemon TREES

Our Citrus Trees are leaders in their line and can sell you either 1 or 2 year Washington or Thompson Improved Navels, Navelencia and Valencia Late Orange Trees; also Marsh's Seedless Grape Fruit and Lisbon and Eureka Lemons. Trees strong, vigorous, true to name and will grow when planted. Write now for prices on desired stock

REDLANDS NURSERIES
E. I. MARTIN, PROP. REDLANDS, CAL.

USE...
California Portland Cement
MADE AT COLTON
Guaranteed for Uniformity, Strength and Durability. In successful use everywhere in Southern California for foundation floors, sidewalks, flumes, pipes, etc. Let your patronage build up Southern California, not foreign countries.
SEND FOR CATALOGUE
California Portland Cement Co.,
401-403 TRUST BLDG., LOS ANGELES, CAL.
We have LAND PLASTER for sale

WE HAVE 20,000 Eucalyptus Rostrata

Left, and are cleaning them out at $10.00 per thousand. Specially quick orders are necessary to secure goods this season. We are now contracting to grow for next season. Let us know your wants.

The J. W. Armstrong Nursery Co.
POMONA, CAL.

POMONA DEEP WELL PUMP

Long stroke, steady movement, runs smoothly, and is perfectly noiseless.

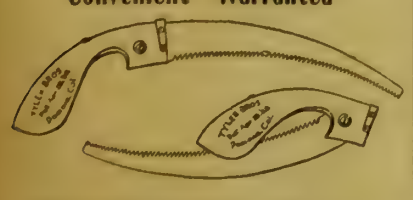
POMONA MFG. CO., POMONA
or Fairbanks, Morse & Co., Los Angeles

Grape Vines

SURPLUS STOCK
CORNICHON, ZINFANDEL
Sterculias---Acacias
and other Shade and Ornamental Trees.
Ferns, Palms and Decorative Plants.
Choice Flower, Garden and Tree Seeds.

Theodore Payne
SUCCESSOR TO HUGH EVANS
NURSERYMAN AND SEEDSMAN
440 South Broadway Los Angeles, Cal.

THE POCKET PRUNING SAW
Convenient—Warranted



Try It—If You Don't Like It, Return It.
IT JUST FITS THE HIP POCKET

The teeth of this saw are disposed at right angles to a straight line from the grip of the handle to the point of the blade, thus permitting the same ease of operation its full length. The peg or cant tooth makes it particularly adapted for green wood. It will not clog or gum. Recommended by all who appreciate a first-class pruning saw. **Price $1.00.**

DEALERS WANTED EVERYWHERE.
GEO. R. TYLER Pomona, Cal

Coast News and Notes

CONTINUED

HORTICULTURE.

Napa county will have a heavy crop of cherries this season, if no storms interfere.

Pierce county, Washington, has planted so far this year between 20,000 and 30,000 fruit trees.

Reports from Suisun state that apricots and almonds have been injured by the heavy rains and frosts.

Tulare county has opened a fine display of fruit attractions in San Francisco at the exhibition hall of the State Board of Trade.

At Vacaville, this State, after a careful investigation of the fruit orchards, it is thought the apricot crop will be short 50 per cent.

The fruit interests of Walla Walla county, Washington, are looking up wonderfully. The acreage before orchard planting started this spring was 11,000.

The prospect for a very large crop of fruit in the Newcastle district is extremely good. A few of the early peach and apricot blooms were blighted by the March storms and will need no thinning.

Eagle Rock is excited over the proposed extension of the Fourth-street branch of the Glendale electric line through Eagle Rock valley to Garvanza, where connection can be made with the Pasadena line.

Fifteen thousand, seven hundred and fifty fruit trees, 14,000 of them prune trees, are being set out by the Blalock Fruit Co. on the big fruit farm at College Place near Walla Walla, Washington. About 3000 have been put in so far.

At Red Bluff an exceptionally good crop of prunes, pears and peaches may be looked for this season. The almonds and apricots have been damaged badly by frosts, but there will be as many apricots this season as there have been any other season, and there will be some almonds.

Reports from Gordon valley indicate that the almond and apricot crops will be light this year. The long period of rain has kept the almonds back so much that the fruit will not set well. This year peaches and pears may turn out a good crop in spite of the lateness of the season.

The Mount Whitney Fruit Company of Oakland will remove its plant and place of business from Oakland to Hollister, the people there having subscribed for the required 20,000 shares. The company is attracted to Hollister because of the quality of the apricots raised there.

Judge Ross has decided that the irrigation bonds for $20,000,000 issued under the Wright act for the San Jacinto district are null and void. Ex-Congressman Waters is largely interested in the San Jacinto district, and it was due to his intervention that opposition was made in court to the appointment of a receiver.

The entire holding of prunes in Oregon was estimated, on April 25th, at 125 cars. From all sources of information obtainable, the stocks held in the East are light, and a good demand is expected in May and June. Reports from the Middle Western States indicate that more prunes are used in these months than in any other portion of the year.

Walnut growers report that the walnut outlook was never better and that indications point to a decrease of the blight. Trees are in full bloom and with a continuance of favorable weather the crop promises to be the heaviest in years.

Rosenberg Bros. Co. of San Francisco have been given half of the output of the Santa Ana Walnut Growers' Association for 1904, and the Fay Fruit Company, of Los Angeles, will sell the other half. The prices will be arranged about September and promise to be slightly advanced over the opening of 1903.

A correspondent from Santa Ana says: Representatives of the Gregory Fruit company are in the field for the purpose of determining the chance for establishing a big drying plant here to take care of the immense apricot crop confidently expected this season. The company will put in a drying plant here if 500 tons of fruit are guaranteed and will on its part guarantee to take as much as 1000 tons. The county's apricot crop promises to be a record-breaker this season.

Frosts and heavy rains will make the yield of some varieties of peaches scarce this season in the Chico district. A correspondent from there says the almond crop seems to have suffered considerably from the recent hail storm and also from frosts and rain. All varieties blossomed unusually full, but continued storms were very detrimental. The outlook for the prune crop is encouraging but it is a little early yet to make an estimate. Prospects are good, also, for a large crop of cherries.

AGRICULTURE.

The Perla Vineyard Co. has incorporated with a capital of $50,000.

Potatoes from Mexico are going into San Francisco in large quantities and find ready sale.

The newly elected directors of the California Raisin Growers' Association have elected R. K. Madsen president of the board of directors.

Crane Bros.' warehouse was burned last Thursday night at Turlock. The warehouse was filled with wheat and the loss on the same is over $8000.

The Farmers' Protective Association of California, a society formed for the advancement of the farmers' interest, is a new candidate for public favor.

Farmers' Institutes conducted by Prof. Wickson and Prof. Fowler, in the northern half of the State, are well attended and productive of most excellent results.

W. O. Davis, of Florin, California, made the first shipment of strawberries of this season on April 10. They were shipped nine days earlier than the first shipment last year.

The farmers of San Luis Obispo county are predicting that not alone the grain crop but the bean and beet crops, will be as heavy this year as in 1897, which was a record-breaking year for this section. Over an inch of rain has fallen during the present week. Pasture is growing luxuriantly and will furnish feed for the dairy cattle until late in the season.

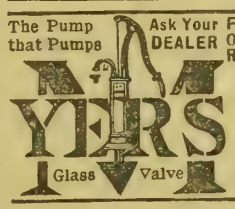
The Sperry Flour Company, of Hollister, laid the foundation for a new building this week. This building will be used for flour and mill stuffs with a barley crushing outfit in the rear. The large mill has been sold for a cannery and packing house. Wheat raising is being supplanted by diversified farming, prominent in which are poultry raising and dairying. A good market is thereby created for mill stuffs, and the Sperry Company will remain at Hollister and supply this demand.

Bog rushes are now being planted on a site near Elmhurst on the banks of San Leandro creek, by the University of California agricultural experiment station, co-operating with the Oakland Board of Trade. Professor Arnold V. Steubenrauch, who is attending to the work, hopes to raise a tule high and thick enough to render it serviceable for the manufacture of matting, the ultimate purpose being to develop a new industry for the bay shores and meet Japanese competition in an important branch of trade.

Alfred W. Dennett, once a millionaire cattle feeder, but recently a restauranteur of San Francisco, was committed this week to the Stockton insane asylum, a pauper and a maniac.

The right of the California fruit raiser to route the shipment of his product over whatever line of railway he may choose was argued by counsel before Judge Welborn in the United States District Court at Los Angeles last week.

The Pump that Pumps — Ask Your DEALER — FOR



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Friday, May 6, 1904

UNJUST TAXATION.

The Cultivator has often noted the rank injustice and inequality in taxation and this week takes pleasure in giving place to a communication from John Tuohy, of Tulare, who is chairman of the State Grange committee on taxation, also of a committee appointed by the State fruit growers' convention at Fresno.

This letter is in response to inquiries sent to Mr. Tuohy from this office:

Editor Cultivator: The State Grange P. of H., California, at its session in San Jose, last October, appointed a committee on taxation, consisting of the late C. W. Emery, past master of the State Grange; D. T. Fowler, Berkeley; Wm. Johnston, of Sacramento; John S. Dore, of Fresno; and myself, chairman.

We have made our report to the executive committee, which will have the same printed and distributed to the subordinate granges so that at the next annual meeting of the State Grange, to be held at Watsonville, commencing on the first Tuesday in October, it can be considered by all.

The report points out the impossibility of a just and equitable tax on all classes of property being collected. Real property, because it cannot be concealed, pays four-fifths of the tax, whilst it is well known the money value of personal property is double that of realty.

The farmer pays taxes greatly out of proportion to that of any other class of taxpayers, considering his ability, and the value of his property, because nine-tenths of his property is in realty, and because his personal properties are scheduled with minuteness of detail, that is required of no other class of taxpayers on their personality.

Again, only in exceptiinal cases will any two county assessors put the same value on the same class of property in their respective counties, and as the county assessment is also the State assessment, the result is the assessor which puts the highest assessment causes his county to pay more than its just pro rata of taxes to the State, and any effort of the State Board of Equalization to correct the assessment is only a makeshift.

Having these conditions in view, the report recommends that the State get its revenue from franchises, incorporations, inheritance taxes and such like, as is done in Connecticut, New Jersey, Pennsylvania and Wisconsin, and what can be done in those States can be done in California; leaving the counties and municipalities to get their revenue by a property tax and other sources. This system exempts county taxpayers from a State tax and State taxpayers from county taxes, except for special purposes.

Some of the defects of the revenue laws of California could be improved by remedial legislation, but the great defect in the general property tax can only be remedied by an amendment to the constitution. Under these conditions special legislation, at the present, would only be amelioratory patchwork and is inadvisable.

The report recommends an amendment to the constitution be adopted, providing for a nonpartisan commission to revise the revenue laws of California, providing such a system as will ensure more equitable taxation, such a system as the industrial conditions of our State requires, such a system as will meet with the approval of our people.

Lately the Committee on Taxation, appointed at the State Fruit Growers' convention, met in Fresno, and agreed to report substantially as the State Grange committee reports.

Both committees believe the time is opportune for the forming and adopting of a revenue system for California which, in all of its provisions, will be as just as a system of revenue laws can be made and will be a model for other States to follow.—John Tuohy, Tulare.

CURRENT EVENTS.

Land Legislation Blocked.—Congress has adjourned and one of the most important measures before it has gone over to the next session, Senator Gibson's bill repealing the timber and stone act and the desert land act has been laid on the table. This bill almost perfectly met the desires of those who wished to see the public domain kept for settlers and developed under irrigation, but the pressure from special interests was so strong against the bill that a majority of the committee decided not to take it up this session. It is too bad. It should have been passed by Congresss, for it is one of the most important measures introduced in Congress this session.

* * *

The Citrus Fruit Market.—If one will consider the conditions that surroun the citrus fruit market on the Atlantic seaboard, it is not so bad at this time of the year. The creased and puffy condition of a goodly proportion of some shipments, the unfavorable weather conditions all over the country and the long distance traversed often occupying too much time in transit, have all contributed to weaken the demand and to make the market unsteady. New York is the greatest competitive point, as it is there that the California products are laid down by the side of those from Florida, Italy and Sicily. The total receipts of California oranges in New York for April were 236,438 boxes, compared with 180,000 last year. These averaged $2 per box, for all brands. Considering the fact that there are over 300,000 boxes in sight from all points, the market may be accounted as reasonably good. Telegraphic reports indicate that the fruit shipped in refrigerator cars arrive at destination in better condition than that shipped in "ventilators." A greater proportion of orange shipments, however, was made in refrigerators. The highest bids for extra fancy navels, in the hands of the Agency, was $2.55. The independents' highest was $2.70. The foregoing synopsis of the market at New York as late as last Saturday affords a pretty fair index of the status of the citrus fruit market on the Atlantic seaboard.

* * *

But little has transpired this week to interest orange growers in the all absorbing question, "What is to be the outcome of the investigation of the charges prefered by Abbot Kinney against President Naftzger." At the Exchange meeting held at Claremont, last Saturday to discuss the situation, and to devise ways and means to better the condition of the orange grower, resulted in decisive talk as to the necessity of reducing expenses at the general offices of the Southern California Fruit Agency; obtaining lower icing rates, and quicker transportation to eastern markets. The impression throughout the State is that the expenses of conducting the business of the Agency are too great for the income derived from the business; that salaries of heads of departments and clerks must be scaled down in conformity to reduced income of the grower. The Cultivator does not know what the salaries paid these officers and clerks are, but it assumes the committee of investigation will probe that matter as it comes under the general charge of incompetence of the head of the Agency. What seems to hurt the orange growers, is the knowledge, or information, that clerks are getting salaries out of proportion to their experience or worth, while they (the growers) are not receiving even a living return for their investiments.

Without knowledge, or exact information, this paper can not say as to this matter, but one thing must all admit, and that is; talent of high business order will command its own price. Ordinary clerkships do not require the expenditure of large amounts, but heads of great concerns, as a rule do, so it is up to the Agency to continue this expense or blue pencil 't as mey seem best.

The situation in the eastern markets is improving. The sale of forty-nine cars of oranges on Tuesday, and the liberal sale on Wednesday has inspired the belief that the worst is over, for this season, and from now on a more healthful market condition will obtain. It may be said in general, we think, that the unrest occasioned by attacks upon the Fruit Agency is subsiding, as orange growers realize that the situation all along the line is not so desparate as at first appeared. The Cultivator can only repeat its former advice to all orange growers, to hold on to their nerve until the result of the examination shall disclose what is best to do in the future to put the citrus business in California on a permanent, safe and paying basis. We may state in this connection, that meetings were held at Redlands and Rialto last week at which delegates were appointed to attend a convention to be called in Los Angeles at a future date, with a view of organizing a rival association to take in and market the fruit of growers not now handled by the Exchange. This movement is confined almost entirely to growers whose fruit has been handled by the Citrus Union.

One thing about the proposed investigation is to be regretted. The attorneys for Kinney show a disposition to procrastinate. Last week their organ announced that a delay of thirty days would be necessary before the investigation can be opened, now they dmand sixty days.

Why this delay?

Why spin the trial out so long, when such vital interests are at issue? The plaintiff should have been ready to proceed when the jury was empaneled. The community is anxious that the end shall speedily be reached and the truth known, anxious to settle questions of future moment to the business of marketing California's citrus crop These continued delays are not condusive to the welfare of the orange industry.

PALMER ON THE ORANGE SITUATION.

At the Claremont Pomological club held last week Mr. Palmer delivered an address on the citrus situation, which is too lengthy for publication at this time. He states several interesting points based upon his experience and convictions, however, which are of importance at this particular time. He adheres to co-operative marketing as the best means of disposing of the orange crop, but he desires to see certain changes made which he thinks will advance the interest of the Exchange.

The four points made by Mr. Palmer in his address are the following:

1. We have reached a point of overproduction. The bad weather in the East has not been so much the cause of the present condition of the orange market as other causes, over-production being one of these.

2. The California Fruit Agency has been inefficient. It has failed to meet the existing situation. It has been following a singularly bad policy.

3. If the California Fruit Agency had secured control of all the oranges in California the results would still have been bad. A monopoly of all the fruit in the hands of one organization is not to the best interests of the orange industry.

4. The withdrawal of the Southern California Fruit Exchange from the California Fruit Agency; and, after that be done the Southern California Fruit Exchange shall open its doors to new members.

"Were this done I believe," said Palmer, "the Exchange would acquire, through new membership, all the strength it requires for accomplishing the best results."

* * *

JUDGE BLADES' VIEWS.

Judge Blades followed Mr. Palmer, advocating the efficiency of the exchange in the handling of the citrus fruit of the State, but he said:

"I think we must cut loose from the Citrus Union; they are dragging us down. I will not say they have cut prices, though they have the temptation to do it and I think they have done it. We cannot keep up prices until every man who sells oranges in California is an owner of the fruit he sells. The members of the Exchange are not a trust; we are a mutual benefit association. I think the Citrus Union is a trust."

Burbank is creating four fine boulevards which when completed will constitute decided improvements.

The best cherries which supply the markets of Riverside, Redlands and Los Angeles come from Yucalpe, and investigation shows that 50 per cent of the cherry crop there has been killed by frost.

The big cannery at Ontario has been sold to a company and will be operated this season. The "G. H. Waters Fruit Co." is the name of the operating firm.

This is the way the Ontario Record puts it: "Things are looking better. More rain, a raise in the orange market, and the assurance that the cannery will run this season, all point to better times."

Cattle raisers of San Luis Obispo county have organized to stamp out cattle stealing in the eastern part of that county.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

CONSERVATISM PREVAILING.

To one who is not intimately acquainted with the characteristics of the citrus fruit growers of Southern California the conditions now confronting the orange industry seems to be in a hopeless tangle. Indeed the situation is discouraging inasmuch as it will require the utmost conservative ability to evolve from the present status of affairs a force strong enough to play a controlling part in the business of marketing the next crop of fruit. But in all the noise and confusion arising from the charges and counter charges we are cheered with the consoling fact that the real controllers of the business have as yet not been heard from. These are the masses of each district who are ever loyal to the best policies of handling the fruit crops as they in their judgment see the most effective means of getting the best results. When these growers get panicky and fail to meet the emergency in the very best way it will be time then for all friends of Southern California to become alarmed. Speaking time will come for this contingency next fall, when the season of reorganization arrives. With faith in the working ability of these people, and the return of the orange business to its normal condition in regard to quality of fruit and eastern climatic conditions, we may expect the industry to again assume a steady gait, having then to meet only the natural commercial impediments of increased crops and more acute competition. It is not here intimated that many of the strongest and most conservative growers have not already taken a hand in the discussion that has set all Southern California by the ears during the last few months. But these pioneers in the cause of farmers' co-operation have been engaged in repelling the attacks of those who have chosen to throw all the responsibility of the present season's failures upon the agencies that have been employed in handling the business. With less than a dozen exceptions that have come under the observation of the writer, the leaders in every orange-growing community have not been heard from in the way of suggestions for the future methods of handling the crops. When this voice has been heard the schemes of the planners and plotters who take advantage of calamity to get to the front may melt into thin air. At any rate the grave problems that now confront the orange industry cannot be settled till the most authoritative influence has spoken.

The probabilities are that with the advent of 25,000 or 30,000 cars of oranges to be cared for the life has gone out of the theories of f. o. b. selling, of home auctioning, of independent success in marketing and of the many other wild imaginings that have been stimulated by adverse conditions, such as every business is liable to meet. Even if these methods once had merit, there is no logic in holding that they would be of value now. Granting that there may be some short cut to success in the commercial handling of this great crop, the advocates of these old theories must not suppose that confidence in the outcome of their re-trial is not increased by the methods employed in attempting to get the public to consider them. All will agree that the Exchange plans advocated by Mr. Chamblin and other pioneers would not have been tried the second year had they not taken hold of the understanding of the growers from practical experience. By what other means can we explain the abandonment of these old theories than by the fact that they have been discontinued after being stamped with failure. Practical business men, whose every dollar is invested in an industry, do not give up a plan without adequate cause nor adopt another without due consideration and trial. The conservative sense that has evolved all that has been really gained in the marketing of citrus fruits is not asleep. It may be hampered and in some degree neutralized by the ill-considered advice and disorganizing influence of those who see no farther into a proposition than the policies of an administration, but the staying properties of the rank and file of the growers will not permit a permanent injury to be done to our greatest fruit industry by any action or any panicky condition if it can by any fair means be prevented.

In a short time it will occur to the people interested that there may be calamities ahead that would not be palliated by a return to normal conditions of demand for fruit, were they to permit a general disorganization of the forces that even the opponents of the Agency or of the Exchange admit may be able to handle the situation were the markets to remain free from the damaging features of the season just passing. It has already occurred to the people interested that all the turmoil of the past two months is not due to the agitators at this end of the line; that the tribute-takers who have so long controlled the markets of other fruits in the east have had a great deal to do with the present furore and that the kernel of the whole matter may be in the inevitable return to power of the commission men if there is any serious defection in the ranks of the co-operating growers. It is also sifting into the understanding of the average grower that no one has offered a reasonable plan to substitute for the present methods of selling the bulk of the orange crop of this State. The conservatives are already nailing some of the campaign prevarications of the critics of the present plan, the latest of which is the statement that the orange crop of Florida is sold and paid for in the orchards of the State. We may look for the atmosphere to become clarified as the season wears along, and while the evil influence of the season's bickerings and slanders may last a long time the growers will gradually come to the conclusion that the main business of the orchardist is to grow and sell his fruit, and not listen to those who only come to the front to assist in this business when some great calamity is threatened the industry. Whatever the ephemeral champions of reform may propose the growers must realize that only self-dependence in some form can bring prosperity of a permanent character. That self-dependence cannot be safely let to those who only take a hand in doing things when stress comes to the business.

Sheep owners are petitioning the government to take their sheep across the mountains from one pasture to another of the forest reserve. This would give the sheep pasture all summer.

CITRUS SHIPMENTS.

The shipments the past week have been the heaviest of the year. This fruit will reach the best markets of the season, but owing to its poor keeping quality, it will have to go into consumption at once. Any causes which may interfere with the rapid consumption of the fruit would at once cause a clogging of the markets with an immediate decline.

The trees are blooming, and at this time oranges never keep well. Furthermore, the unusually hot weather during the early part of the past week weakened the fruit, especially that which was in the packing houses.

The car famine is over, and shippers have sufficient cars to supply their needs. Railroads are also making better time, and the congestion of traffic that so seriously impeded the transportation of citrus fruits earlier in the season is becoming lighter, and enables both railroads to make fair time.—Covina Argus.

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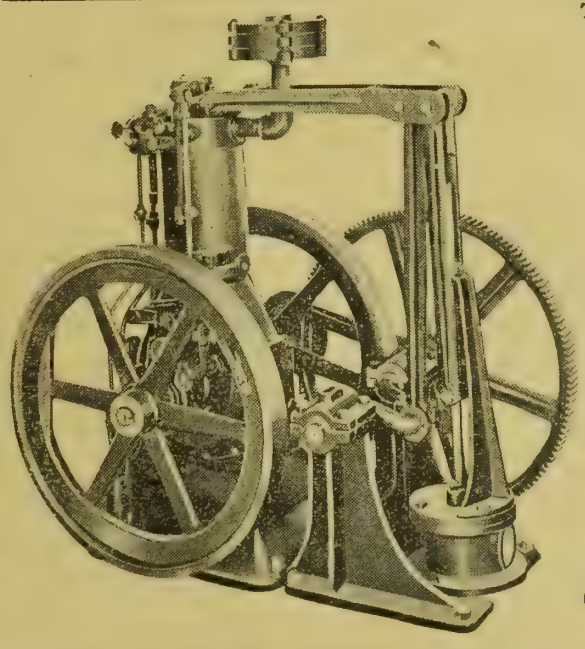

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PROFITABLE CATTLE FOR BEEF.

That California will become a profitable cattle country in ways other than dairying is now an assured fact. Within the past two years the section north of the Tehachapi has received a very large importation of stock cattle for beef. Herefords, Shorthorns and Red Poles have all been brought in and each breed is having its own friends as its respective merits appeal to the owner. That the stockmen of California may know something of the peculiar merits of the Hereford, a few facts in relation thereto may not come amiss at this time, when buyers are deciding between various brands as to which is the most desirable for general breeding. The Chicago Live Stock World has compiled a few facts relative to the merits of the Hereford which will apply equally to California as well as to the South, from which point the article is viewed. The climate of this State is not dissimilar to the cattle regons of Texas, and the fact that Hereford cattle do well in that region should inspire cattlemen to try them in the range districts of this State. "The peculiar adaptability of Hereford cattle to the south," says the Live Stock World, "has long been recognized by experts in the line of bovine improvements.

"Kentucky has numerous fine herds, including the grand champion bull at the 1902 International Live Stock Exposition, 'Britisher.'

"Prof. Andrew M. Soule, of the Tennessee Agricultural Experiment Station, has demonstrated how great a part the Hereford can play in the upbuilding of beef breeds in the middle south.

"Dr. George E. Nelson, State veterinarian of South Carolina, testifies to the popularity of the 'white-faces' in that region, and has some remarkably fine specimens, both home-grown and northern-raised, in the Clemson college herd.

"Practical Chicago stockmen are demonstrating the profit and pleasure there is in grading up Texas as well as piney-woods heifers with Hereford bulls in the cheap lands of Alabama.

"The famous Hereford man, T. L. Miller, spent the latter part of his active and wonderful life in showing that Hereford cattle thrive and prosper in the winterless climate of western Florida, and if he had been permitted to live a few years longer, good judges feel sure that the name of De-Funiak Springs would have had more than a national reputation on account of the great herd that he was building up there.

"Dale, the highest-priced Hereford bull ever sold at auction, was sold out of an Indiana herd to an Illinois man; also Dale's famous son Perfection, sold as a calf for $1300, and heads the herd owned by M. E. McGuire, at Carbondale, Ill. These facts speak volumes for what the Herefords do in the Hoosier and Sucker States, where some of the finest herds of the breed have been grown.

"The records of the great Smithfield show and market in London indicate the top-notch esteem in which these cattle are held in the land of their origin.

"The thick but mellow hides and heavy coats of hair make the Herefords especially hardy where the southern tick has not yet been eradicated.

"Secretary Chas. R. Thomas of the American Hereford Cattle-Breeders association, recently returned from an extended trip through the south, where ticks were unusually prevalent, and says: 'From a number of the largest ranch owners I learned that the Herefords stood the test admirably and were prime favorites.'

"The Hereford has an established record for early maturity and greatly excels all other breeds in maturing on grass alone.

"When Texas-bred and Texas-raised Herefords can be sent to northern and eastern feed lots and fitted so as to win first honors at the International Live Stock exposition in car-load lots, and when it is no uncommon thing for southern-bred Herefords to top the Chicago market on several days of the same week, there can be no room to doubt the wonderful adaptability of 'white-face' cattle for farmers and feeders in southern Illinois, Arkansas, Indian Territory, and in fact, throughout our entire progressive and resourceful southland."

OFFICIAL TESTER.

Editor California Cultivator: I have received notice from the American Cattle Club of my appointment as tester, for the purpose of superintending authenticated butter-fat estimates. All tests made by me will be accepted by the A. J. C. C.

I am of the opinion the A. J. C. C. pays one half of yearly fat estimates, provided that said test amounts to 425 lbs. butter-fat, or over; under this amount the owner would have to pay to the A. J. C. C. cost of test, which would be, as Mr. Leffingwell states, $2 per day and expenses for first year, (I did not anticipate a great amount of my time would be required, so encouraged the Jersey interests more than I would if I thought it would require all my time), so the Jersey breeders can take advantage of my offer. I want to see every Jersey tested in California, capable of making a test, of either seven days, thirty days, or one year, and it looks to me that there can be no excuse for her owner, if she is not credited with a test. I have become tired of hearing breeders say "she will make a test when tried, but really I have no way of making tests anyway," etc." There is no excuse now for delay; if you have a cow capable of making a test, test her. If you haven't that kind of a cow, don't try to make the public think you have, especially if you have a bull calf to sell. I believe the time is ripe in Southern California to kill every bull calf from every Jersey cow unless this cow is capable and does make a test. It is best for the Jersey interests and best for the breeders that that shall be done.

I don't know that I will encourage

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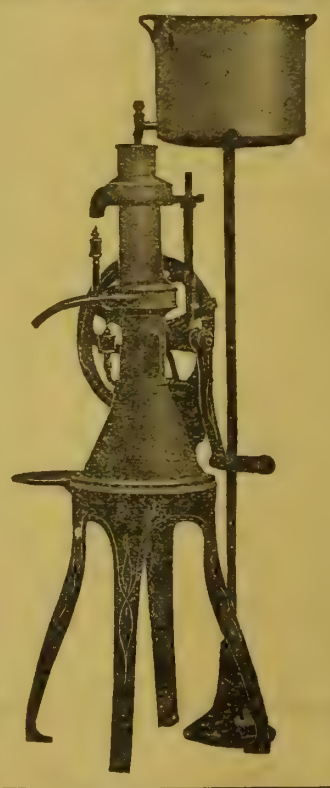

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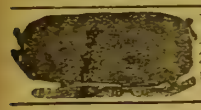

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Used by 80 per cent of vaccinating stockmen in California. Early vaccination is good insurance. Write for description of our Black Leg Pills and Injector for using them. They are safer and easier used than either the string or powder vaccine.

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The Cutter Laboratory

322 E Rialto Bldg., San Francisco

If your druggist does not stock our vaccines, order direct from us, we pay all charges.

the breeders to make annual fat estimates of the 400 lb. butter class, because breeders ought to know this kind of a cow, for in my judgment, there are a great many capable of making 400 lbs. of butter in a year; but add 100 lbs., making 500 lbs. of butter. This is the kind we are looking for and are not so plentiful, yet I know there are a number that can show this test. Another thing I want to say is, no cow, no matter what the breed, can make 14 lbs. of butter in seven days or 500 lbs. in one year in Southern California climate and on barley hay. Cows, to make creditable tests, must be fed and handled properly; fed on a balanced ration, or nearly so, and milked regularly and thoroughly; the better you care for them, the better they pay you in return.

I beg to announce that I am ready to conduct any test required, be it seven days, thirty days, or one year, authenticated fat estimates, or confirmed butter tests if desired, and will give every cow all that is coming to her, no more and no less. If I make a test it will be accurate and the public generally may rest assured there will be no misrepresentation.—C. S. Burgess, Official Tester, A. J. C. C.

PALM GLEN JERSEY HERD.

The owner of the above styled herd is A. B. White, of Palms, on whom a representative of the Cultivator called this week, to look over his late importations of pure blood Jerseys. It is always a satisfaction to one who knows good cattle, to meet a man engaged in founding a herd, who understands what he needs, and who takes delight in his stock as an artist in his paintings, who can look at an animal and in plain, straight language tell the desirable points in its character without being over zealous or imparting wrong information. The Palms, which Mr. White has recently removed to, is a beautiful spot, twelve miles from Los Angeles, and the center of a fine grass territory, with irrigating plants sufficient to insure good hay and alfalfa crops annually. In the center of this beautifully located hamlet is the farm of which we write, and on which are some excellent cattle, the owner of which is justly proud.

It seems to have been the idea of Mr. White to follow two principles in the building up of his herd; to secure quality, and to unite with quality beauty. He is morally certain, from the breeding of his stock, that he has quality, and beauty itself is apparent in every animal he owns, so that in talking about his ideals he shows justifiable pride in speaking of their breeding and in referring to their build and symmetry.

Imported Sultane's Golden Fern 65304, which stands at the head of his herd, is a beautiful young bull, in his first season, a direct descendant of Golden Lad and only eight lines removed from Sultana P-7-H. C., the founder of the great Island family. Mated with this animal are five heifers of the Amelia Ann family of pure St. Lambert's stock, which are exquisite animals in dairy form and very promising in udder development. Three heifers sired by King of St. Lambert's Boy, two sired by King of St. Lambert and four of direct Island stock. Oral's Golden Belle is a beauty with almost perfect dairy form and the promise of a fine future.

Golden King's Eloise, from the select herd of J. H. Walker, is a magnificent cow that is a pleasure to look upon. Probably the cow which most delights Mr. White's heart it "Rosalie Rosette," an inbred calf of Golden Lad, a royally bred animal with a great reputation. A personal discription of each of the fourteen heifers comprising this foundation herd is not to be made here. In a later issue this will be done. Mr. White is not ready yet to talk of the merits of his cows and will not be until they have been officially tested, but he feels certain that not one of his prized pets will fall below the standard he has set for them in his mind, both as to quality, and quantity of butter fat when the test is made.

A. B. White is certainly a genuine lover of Jerseys. He swells up with pride as he looks at them and says, "they are beautiful, so elegant in dairy form, so promising in development." Well, they are, and then, too, the satisfaction of the knowledge that they are pure bred. Any breeder has a right to feel proud of the ownership of a herd of pure blood cattle, be they Jerseys, Holsteins or any other class. Mr. White's new home is a typical California rural place. Choice tropical trees and plants and flowers adorn the sightly grounds, abundant fruit and vegetables are everywhere in evidence. A magnificent valley stretches far away all about him, while in the distance the blue ocean flashes in full view, in the sunshine, and the lights of Los Angeles glimmer in the silent night. May success attend the Palm Glen Jersey Farm, and every ambition of its owner to build up a meritorious herd of pure blood cattle whose tests shall bring him reputation and adequate financial return, as he views with pleasure the result of his efforts to establish in this locality a class of Jerseys of which any State might be proud.

Observers and experimenters believe that one-fourth of the cows in the country are boarders, and nearly one-fourth more barely pay expenses—leaving their owners no profit. Would it not be a matter of ordinary business prudence for the owners of cows to test their herds? Only thus can they tell the unprofitable cow and get rid of them as soon as possible. There would be more made if the boarders were conspicuous by their absence.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

G. I. Lytle

HIGH GRADE, STANDARD BRED JERSEYS

2006 S. GRAND AVE., LOS ANGELES

Advertising Column for Members

OF THE

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OF SOUTHERN CALIFORNIA

An organization of fifty members for the development of Jersey Cattle Breeding, by intelligent co-operation, and by the promotion of honorable and conservative methods.

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For Sale, Jersey Bull

12 months old, solid color, dark tongue and switch. Sire, a Pedro bull, dam of sire, Dot's Violet W, 98612, first prize cow at Sacramento, 1903; dam, Golden Beulah, 119333, half-sister of Gold Drop's Maud, first prize cow of Southern California. First check of $50.00 takes him.

W. Jay Cole, R.D.1. Anaheim, Orange Co., Cal.

JERSEYS

PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

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Pacific Golden Lad

AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.

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Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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A handsome golden fawn yearling son of SIGNORA BRUCE NO. 154547

Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address

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Jerseys with a record as milk and butter producers

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Jersey Mead Stock Farm

HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

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Service bull "SARGENT BOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

J. A. CAMPBELL WE HAVE SOME GOOD ONES C. W. CAMPBELL

LA PALMA STOCK FARM

REGISTERED JERSEYS

The blood of all the winners at the Chicago World's Fair. Will sell a few young of either sex.

REGISTERED POLAND-CHINAS

Herd headed by the proved greatest sire ever in the State. Sired 10 winners at last State Fair. Nothing for sale.

BUENA PARK, ORANGE CO., CAL.

Stock received for breeding at fair rates. NO CHARGE UNLESS SUCCESSFULLY BRED. Correspondence solicited.

OAKHURST JERSEYS

PROPERTY OF L. L. BRADBURY, ESQ.

SONS OF Imported Golden Marquis, FOR SALE

ALSO

MELIA ANN'S LAD and a YOUNG TORMENTOR BULL

The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address

James Houston Duarte, Cal.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 North Broadway, Los Angele

Editor Cultivator—I have a cow five years old, which has been milked for two months. About two weeks ago there becan to come out with the milk lumps of a hard stringy matter, varying from the size of a pin head to as large as would pass through the teat and an inch or two long. She is in good flesh and health. There is the usual amount of milk in the other teats for there is only one effected. She is well and regularly milked. Answer through the Cultivator what it is, and what can be done to stop it if it can be stopped.—E. C.

Give a tablespoonful of bicarbonate of soda in the morning, and an equal amount of nitrate of potash in the evening.

* * *

HAD PNEUMONIA.

J. R. U., writing from Tropico as to what killed his pigs is informed that from the description given his pigs all died with pneumonia.

Disenfect the pens thoroughly before again using them. They are liable to be filled with disease germs.

* * *

INDIGESTION.

Editor Cultivator—I have a hog about a year old which I feed on grass and slop. After eating he vomits his meal. What is the trouble?—S. L. S., San Jose.

Give powdered charcoal and bicarbonate of soda, dose tablespoonful twice a day.

* * *

OPEN HIP.

Editor Cultivator—I have a horse that has an open hip. The soar will heal for a few days and then break open, and yellow matter run from it. It does this frequently. Please tell me what to use.—F. K. S., Hanford.

If the injury is on the point of hip bone, you probably have splinter of bone. Inject into the wound a little of the following: Corrosive sublimate 1 drachm to 2 ounces of alcohol. Inject or if the opening is large enough, insert cotton saturated in solution; repeat in 2 days.

* * *

TO KILL LICE.

Editor Cultivator: I have two horses that run out with cattle, and they have lice. The horses are in fine condition. What will I do to kill the lice.—C. M. H., Arroyo Grande.

Smear with lard liberally.

The farmers in and around Burbank and Glendale are signing contracts with a telephone company to supply them with 'phones.

NORTHERN INSTITUTES.

In response to a request to Prof. Fowler, conductor of the northern institutes, we are in receipt of the following:

Editor Cultivator: Isend you a list of the Institutes which will be held during the month of May:

Kelseyville, May 3 and 4.
Lakeport, May 5.
Upper Lake, May 6 and 7.
Linden, May 10.
Mills, May 12.
San Mateo, May 12.
San Jose, May 13 and 14 .
Courtland, May 26 and 27.

Institutes will probably be held at Salinas on the 24th and 25th of May; at Dinuba on the 24th; Orosi on the 25th; Reedley on the 26th; Madera on the 27th; and there will be a series of Institutes held in Humboldt county by Prof. Major and Dr. Ward. There will be four of these held during the latter part of May, but the exact dates cannot be given at this time. These institutes will be at Ferndale, Fortuna, Arcata and Eureka. Also there will be institutes held in the latter part of this month at Susanville, Lassen county; Sierra Valley, Sierra county, and at some one or two points in Siskiyou county. The arrangements for these institutes are in the hands of Professor Major of the Dairy Department, inasmuch as these several institutes held at these northern points will bear strictly on the problems of dairying and cattle raising. At present writing the dates have not yet been set but the places are as I have named. Very truly yours, D. T. Fowler, conductor of Farmers' Institutes.

ALFALFA MEAL AS STOCK FOOD.

Recently a high protein stock food has appeared in the market, known as alfalfa meal. It is prepared by curing alfalfa in the best possible manner. For this purpose the hay must be green, cut when the first blossoms begin to appear, and cured without injury from rain or sun, then by a special machine this palatable hay is ground into a fine meal and placed on the market as a food especially desirable for dairy cows, young stock of all kinds, including hogs and poultry. This meal has proved wonderfully popular. Being finely ground, it can be fed to any kind of farm stock. It is particularly satisfactory for city horses, where the standard feed is corn, oats and hay. With these feeds there is danger of horses becoming feverish and heated, particularly during hot weather. The meal is practically a balanced ration. Four or five pounds per day, with the usual amount of corn and oats, gives splendid results for work horses. It has also been fed extensively to fattening steers and counteracts the bad effects of large quantities of corn.—Orange Judd Farmer.

F. A. MEACHAM
BREEDER AND IMPORTER OF
RED POLLED CATTLE
SHROPSHIRE AND
AMERICAN MERINO SHEEP
Both Sexes For Sale
Live Oak Ranch PETALUMA, CAL

Minnewawa Stock Farm
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Oldest and Original Home of Registered Holsteins in California, and Home of the Juliana Family.

FOR SALE

REGISTERED HOLSTEIN BULLS
PACING AND TROTTING HARNESS HORSES
PERCHERON AND ROAD STALLIONS

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

TURKEY LORE.

Within the last week I have had three letters, asking for the article on Turkey raising, which I wrote in the Cultivator of January 22nd.

I went to the Cultivator office and found to my surprise that although ten thousand copies of that date were printed, not one is to be had. To copy the article for each request would not be possible, therefore the only plan left me is to re-write some of it. This was a late season for turkeys, several flocks I know commenced laying a month later than usual, so I hope this article may prove timely for many, especially our new subscribers.

* * *

Turkeys are indigenous in America and can be raised in every State of the Union. In Kansas, Missouri and Oklahoma there are still quantities of the original wild turkeys, which, I am sorry to say, like the buffalo, are rapidly becoming extinct. I have lived in the land of the wild turkey and there more than anywhere, I learned how to care for tame turkeys.

* * *

There is no doubt that turkey growing, on a small scale, is more profitable than any other branch of poultry culture. The income from turkeys comes easier than from chickens. Turkeys hatched in the spring and early summer are ready for market by Thanksgiving and Christmas, and bring in ready cash, just when one wants it most. I know a farmer's wife living near me, who always tries to have a hundred turkeys ready for Christmas; these bring her a clear two hundred dollars. Exclusive turkey farms, such as the duck and chicken plants of large size, are unknown here, and even in Kansas, where both turkeys and chickens seem to grow almost without care, the turkeys are raised on the same farm with chickens, as they forage further away and rarely trouble each other. Turkeys do not require warm houses even in the East, but they should have shelter from the rain, even in California, and it is wise to be prepared for such contingencies in the fall, by having a shed with high roosts in it where the turkeys can be shut in when the rain comes; this will save the keeper from extra work under disagreeable conditions. The turkeys themselves will often seek the shed before a rain storm. I have one wise mother turkey, who always before a heavy fog in summer, comes up to the woodshed and pleads plaintively for an open door, to lead her little flock into shelter, whilst on bright nights they go to their pen and sleep outside. She knows when the heavy mist or fog from the ocean is coming when I have no such intelligence.

* * *

Turkeys in their wild state are not very prolific, rarely laying over ten or twelve eggs. Tame turkeys of most strains usually lay only from fifteen to eighteen eggs in the first litter, and, as they lay so few eggs, it is the common practice not to allow them to sit, until they have laid two litters. To avoid breaking, and also to induce them to lay longer, the eggs are removed from the nests daily, and if there is danger of the turkey deserting the nest a few hens' eggs may be substituted.

The turkey hen usually begins to lay in March or April in the Middle States; the period varies with the latitude, and here they frequently commence in January or February, according to the season. I find it best to yard them for a time before they commence to lay. I fix coops, boxes or barrels for them to lay in, with clean wheat straw in them and place them in corners or partially concealed places. Or when the turkeys cannot be confined to yards, I try to persuade them to choose a box or barrel near the house, and if they seem inclined to wander off I prevent them until they have once laid in a nest, when they will seldom desert it.

* * *

The natural methods of hatching and brooding are used almost exclusively in turkey raising. The period of incubation for turkey eggs is twenty-eight days, occasionally prolonged to thirty days. As the eggs are almost always fertile, testing is not necessary as with hens' eggs, but they can be tested in the same way. I have had very good success in hatching the eggs under chicken hens and raising the young turkeys in a brooder. I have also raised them under hens, but I prefer the turkey mother. If tame she is exceedingly gentle and quiet with them, lifts her feet slowly and never treads on her babies; she does not wean them too early. Whilst a good motherly chicken hen is restless and fussy and keeps the young ones too much on the move, at first, just when they need rest and warmth, and when they should be kept very quiet. On this account I take the little turkeys away as they hatch, wrap them in flannel and keep them in a warm, quiet place, until all are hatched. Then if I have a brooder to spare, I put them in a warm brooder; otherwise I return them to the hen, when I have fed her, and I shut her up with them in a dark place to keep her quiet for thirty-six hours.

* * *

When hatching under a turkey hen I leave her alone until all are hatched out. A turkey hen can cover from fifteen to twenty eggs, and it is best to set her on the nest in which she has laid, although if very tame she can be moved to any place; this should be done after sunset. A chicken hen cannot cover more than nine turkey eggs. The hens should be well dusted with insect powder every week during incubation to keep them free from lice. To do this effectually put the powder into a large pepper pot (a baking powder can with perforated lid does well), stroke the hen and she will ruffle her feathers; pepper well under them and let a little fall in the nest.

* * *

Young turkeys will not eat for twenty-four to thirty-six hours, and no food should be offered them the first day. The mother must be fed. If the nest in which the little turkeys are hatched is so situated that I can put a small pen in front of it I leave them there for a few days; if not, I move

them to a suitable place. I use the same panels of chicken wire tacked to six-foot long laths for turkeys as I use for little chicks, and I keep the little poults confined in these small pens until they are two weeks old, moving the pen if the ground becomes soiled. After two weeks, if mothered by the turkey hen, she may be allowed to range with them, but a chicken hen must be watched, and if she wanders too much I either confine her in a coop or tie her by the leg to a tree. Lice must be fought as on little chicks. I never use grease on little turkeys, as it may kill them. I use buhach or insectonos; they must be fresh. Look for lice between the quill feathers of the wing and rub the powder well into them. Lice and overfeeding cause the death of thousands of little turkeys.

* * *

When I lived in the home of the wild turkeys I learned a great deal that was new to me about feeding little tame turkeys. One thing was to feed them very little almost starve them: they will grow bigger and stronger than if overfed. I was told also to never feed corn until after they had "sported the red," that is until they showed red on the neck and head. This is a dangerous time, just as teething is with babies; they must be kept warm and fed a little meat or more hard boiled eggs. The reason given me for not feeding corn was that it would sour on their stomachs. I have since found that corn (either cracked corn or raw corn meal) does not get softened in the crop, but goes direct to the gizzard, in its hard state, and before the gizzard has time to grind it up, ferments or sours, bowel trouble ensues, and the poult dies. So I shun cracked corn.

* * *

Before giving the little poults to the mother I dust them with buhach, and I do this at least once a week until they are too large to handle. The first food I give the poults is coarse sand or fine grit. When they are twenty-four hours old I put fresh laid eggs in cold water, boil them twenty minutes, chop them up finely, shells and all, add equal parts of dry bread crumbs, and feed dry, taking away what they leave and feeding the mother separately.

The next day I feed them the same but add very finely chopped lettuce, or dandelion, or green mustard leaves and onion tops. This is their breakfast and supper. For dinner they have a little curd made from clabber milk (Dutch cheese). In a few days I add cracked or whole wheat to the supper, and frequently if short of bread crumbs add breakfast rolled oats and chop this up with the eggs. I also always give them one onion a day chopped with the egg and bread crumbs, unless I have plenty of tender onion tops. I know of a man who raised his turkeys on onion tops and Dutch cheese, and they did well. Onions are very healthy feed for both chickens and turkeys; prevent worms, gapes, and cure colds, so I use them very freely. In a few days I commence to add wheat to their chopped food and at two weeks I gradually arrive at giving them wheat and rolled oats for breakfast; in the middle of the forenoon a head of lettuce to tear up, and at noon Dutch cheese, and about four or five their good supper of egg, bread crumb or rolled oats, onion always and lettuce. I give them clean water in a drinking fountain, or if I have not a drinking fountain I take an empty tomato can, invert it in a saucer, having made a nail hole in the can, just below where the edge of the saucer comes, to allow the water to come slowly out. I use a similar fountain for milk. Turkeys young and old do well if they have milk, sweet, clabber or curds. In California, at least in the south, when eggs grow scarce, the turkeys require meat in some form added to their rations. In Oklahoma and Kansas they get all the necessary animal food in grasshoppers and insects, coming home at night with their crops simply crammed with them.

In confinement, or not on free range, poults require green food. The great temptation is to overfeed, as they are greedy little things, and so tame they follow one round, fairly begging for food. When I cannot resist their importunity, I throw them a head of lettuce, which will keep them busy until I escape into the house.

* * *

I know that lice and overfeeding are responsible for the great mortality in little turkeys. The trouble is that if they are overfed at first they will grow so fast and seem so well that one will begin to think it was all a mistake about overfeeding, that they can eat as chickens do. They may eat all they want after they have "sported the red," but until that time they must eat a little at a time and must exercise to make their food digest. It is a curious fact that overfeeding stunts them. If you open those that die you will find the liver spotted; this indicates diseased liver.

* * *

Mrs. Jones, an expert turkey grower in the east, writes: What causes a diseased liver? Too much work. What causes the liver to do too much work? Too much blood to strain. What makes too much blood? Too much food and not sufficient exercise. This, in a nutshell, is the cause of so many turkeys dying."

They grow fast and have voracious appetites. If the food is set before them, they will eat it instead of hunting for it and it takes only from four to six weeks for them to eat themselves into their graves. If they hunt for their food they take it leisurely. The digestive organs are not hurried. They take just what nature requires and can digest, and just enough goes into the circulation to keep them in perfect health, strong and vigorous.

"Prevention is better than cure"; don't overfeed poults, but keep them clean from lice and you will have no trouble. In case, however, that there are indications of liver trouble in half-grown turkeys, give them a liver pill, such as you use in your family. A half or a whole pill, or even two, according to the size and age of the turkey, and you may possibly save them.

"My turkeys, nearly grown, are dying off and I don't know what to do," said the neighbor of a friend of mine. "Try giving them liver pills; I cured mine with Carter's liver pills," was the response. Liver pills were tried with excellent results. Better use a little care and don't overfeed.

Be sure to keep the droppings removed, and plenty of litter on the floors.

PROTECT THE FOWLS.

There is considerable complaint among poultry breeders of colds in their flocks. We can only repeat here the injunction so frequently laid upon chicken growers by this paper, to shut off draughts in the coops. Behold, how much trouble a little crack in a chicken house can make.

Cabbage is selling at Fullerton at $30 a ton net.

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
LOUIS S. FLETCHER, ANAHEIM, CAL.

MATURED

Standard Bred
Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
S. C. W. Leghorns (Emery Strain)
Only Birds That Have
MOULTED
are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

Homer Pigeons
FOR SALE
I have 7 dozen of Homer Pigeons, from the best stock to be had from Boston, which I will sell at $1.75 per pair.
R. M. Burney, Redlands, Cal.

TAKE NOTICE
When one gets ten to twelve dozens of eggs per day, as I have been getting for about two months past, it counts, but they all go. Just up with orders. Have sold nearly 7000 eggs for hatching purposes, 90% of them W. Minorcas; balance White Rocks and W. Wyandottes. Will continue to fill orders. If eggs from my stock are wanted write to
S. W. MORGAN, SUNNYSIDE, CAL.

INDIAN RUNNER DUCKS
AND
WHITE PLYMOUTH ROCKS
Basley's strains. Eggs, $1 a setting, $5 per hundred, also TWO POULTRY PLANTS in Huntington Park, 1 to 5 acres. 5c book fare to city.
Foster's Fowlery, R.D. 2, Los Angeles

CARRINGTON'S WHITE LEGHORNS
Eggs for hatching from PRIZE WINNING and utility bred stock, by the sitting, 100 or 1000, also breeding stock of all ages for sale. Write for folder giving prize record to
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The 1904 Catalogue B
Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
Must Hatch Incubator Co., PETALUMA CAL.

Fair Oaks Duck Farm
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James Hague, Proprietor
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PURE BRED WHITE LEGHORNS
$1 00 per 13—$4.00 per 100
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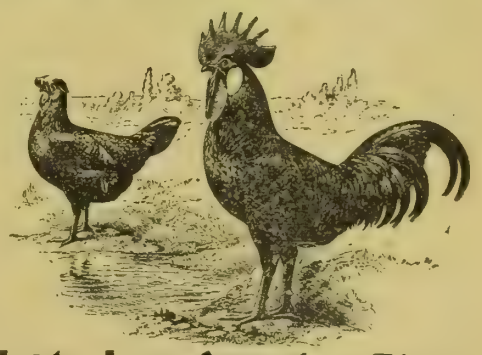
DORKINGS Oldest known fowl, parent of Orpingtons; England's utility breed, fine layers. Eggs in April $2.00, express prepaid. Buff Cochins, Golden Polish also. Never defeated in the shows. Harry McIntire, 27th & D, San Diego, Cal.

EGGS FOR SALE
From Thoroughbred White Plymouth Rocks and Indian Runner Ducks. 15 for $1.00, 26 for $1.50. All fine stock.
H. S. THOMPSON, 125 W. Ave. 54, Los Angeles

READY FOR BUSINESS
Lice and Mites are always ready for business, and for ridding the roosts, houses and old fowls of these great life destroyers, you must use
Lee's Lice Killer
and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is
Devil's Dust with D. to L. Ointment
HENRY ALBERS 315 S. MAIN ST., LOS ANGELES, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks



Trophy Winners at Late Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees

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PREPARATION OF POULTRY FOR MARKET.

Editor Cultivator: In a recent number of the Cultivator I read an interesting article on the above topic. In that article I see no mention of one method of killing that by some large shippers is claimed to be best of all—that of breaking the neck, either by simple extension, or by twisting.

I have dressed fowls killed by accidents, that were quite dead when found, and in several instances all the blood in the body appeared to have flowed into and immediately around the seat of injury, leaving nearly the whole bird as bloodless as though it had been decapitated.

I only make this reference to that method of killing since it may be necessary to the success of any plan to save the creatures agony, to give consumers confidence in the healthful condition of the bird's head at the time of death, and to have it attached to the carcass when it is exposed for sale. Some shippers claim that poultry thus killed keeps better than when cut, perhaps because the skin being entire germs do not find so ready a surface to work upon.

As for my own part, I could as easily bring myself to partake of a fowl known to have perished of disease, if it were thoroughly cooked, as of one tortured to death in the frightful and fiendish manner described by the author of this article.

It seems almost incredible that establishments of any size could find it profitable to allow such rushing methods if they were located among civilized people, but on reflection, again, I recall equally revolting accounts as to the conduct of affairs at Chicago stockyards, and Chicago is not in the backwoods, so to speak.

I think that the only security against torture, for our poor, frequently petted and confiding birds (under the present system of distribution) is the system of neck-wringing, combined possibly with bleeding. This surely deprives the creature of consciousness while the denuding process goes forward.

I can only implore all right-minded people who may read this (if you can grant it and my clipping space in your columns) to do what they can, between this time and the next great annual slaughtering season, to avert suffering to the innocent creatures whose flesh we need, but whose bootless torture embrutes the whole human race, that does not rise up in arms to prevent it.—Frances Wilson, Anaheim, April 24, 1904.

The article referred to above is as follows:

The pretty little city of Oakland, in Douglas county, Oregon, is a sort of a turkey metropolis, and people seem to give more attention to the raising of the national bird than does any other locality in the State; at least, Oakland ships more turkeys than any place in the State of anywhere near its size. We have shipped from here within the last day or two about 11,000 birds, and we congratulate ourselves. And I want to call attention of all good people to the exquisite torture and cruelty of their slaughter. But, before I proceed, I want to exonerate the dealers of any responsibility in the matter, for they are probably as humane as the rest of us, but the market requirements are such that they are possibly unable to handle fowls otherwise. The bird is "stuck," or bled in the mouth, and as soon as this is done it is handed to the picker, who hangs it up by the feet, and then goes to picking, and this seems to be the most terrible torture, for the bird seems not to heed the operation of sticking, or the very slow loss of blood, which is a protracted dribble, but protests with a most piteous shriek as each handful of feathers is jerked out of his body, and when the picker pulls out the wing feathers, which he does first, he frequently pulls the wings out of joint, and the frantic struggles of the tortured bird you may imagine; but that plaintive, piteous shriek of pain you must hear to appreciate. I was told by a picker tonight that a few days ago he saw a turkey picked clean and handed over to the boss, who received it and gave a check for it, and the bird escaped from him and ran some distance and was caught and then killed, and any one who desires can see live turkeys hanging on the racks.

Talk about the horrors of the Inquisition—that was fanaticism. Of indian torture—that was vengeance. Of vivisection—that is necessary, perhaps. But this turkey torture cannot find justification in anything but usage and arbitrary market requirements. As to the remedy: The bird should be decapitated, and then the picker, could go to work at once and get the fowl picked while warm, and we could be sure that the bird was, from the moment of decapitation, insensible.

I had thought of writing to the Humane Society, or some such organization, and imploring their intervention. But finally came to this conclusion.

We are sending out from this place 11,000 Thanksgiving turkeys, all to be served up on this coast, and it does not strain one's imagination, or his mathematics, to see this contribution of Douglas county to our great annual national feast, the crowning glory of family feasts and reunions in 10,000 homes, and to realize that 20,000 fathers and mothers will, as they survey the delicacies which their love and bounty have provided, feel a little more gratitude to the giver of all good for the objects of their devotion and their ability to gratify them, and that 40,000 children (for race suicide does not prevail here yet) may call for more Douglas county turkey and say it is good. Hereafter, henceforth and forever, will it be the prayer of your humble scribe that each one of these 20,000 parents and 40,000 children will never buy a Thanksgiving turkey that has not died of decapitation.

J. H. M.

Common corn fodder cut with a feed cutter, steamed and fed in mush, is an excellent ration.

Coal oil is a cheap and effective preventive and exterminator of vermin that infest chicken houses.

Keep only enough cocks for your breeding hens. Don't allow them to run with hens that are laying eggs for market.

"THE BLUE GRANGE" ANDALUSIANS

Are still in the lead. They cannot be beaten for their egg record, style or beauty. Won 1st and 2nd on pens, 1st and 2nd on hens, 1st and 3rd on cockerels. 1st on pullet, 2nd on cock at Los Angeles show. Eggs for hatching from these prize winners, $2 and $3 per 15; also from grand pen of stock imported direct from Newton Cosh, the male being son of the Boston winner of 1903, also of the Madison Square Garden Show, 1904. $5 per 15.

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Black MINORCAS White
BIG WHITE EGGS
80 to 90 per cent fertile; 75 per cent guaranteed. White Minorcas $1.50 per 14, Black Minorcas $1.00 per 14; $6.00 per 100.
CHICKS FOR SALE AT 15 CENTS EACH
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$5.00 PER 100
BARRED ROCK EGGS
Choice mating, $1.50 per 13
BUFF LEGHORN EGGS
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LINDGREN & SONS KINGSBURG, CAL.

Eggs for Hatching
from Mrs. A. Basley's strain of
White Plymouth Rocks
$2.50 per setting of 13
Mrs. G. C. Clark Fullerton, Cal.

NATURAL HEN Incubators and Brooders
Send 10 cents for our 96-page book entitled Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16-page circular free
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Manufacturing Agents for Pacific Coast States

The West Coast Stock Food Co.
Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
WEST COAST STOCK FOOD CO.,
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Golden Laced Wyandottes
Eggs of Ideal Strain. 15 Eggs, $1.00
Mrs. Frank Wood, R. F. D. 2, Compton, Cal.

BARRED PLYMOUTH ROCKS
THOMPSON'S RINGLET STRAIN
Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.
A. A. Clapp - Alhambra, Cal.

Good Hatch Guaranteed
BUFF ROCKS
Eggs—$2.00 per 15
WHITE MINORCAS
Eggs—1.50 per 15
F. E. Seaman, Upland, Cal

Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
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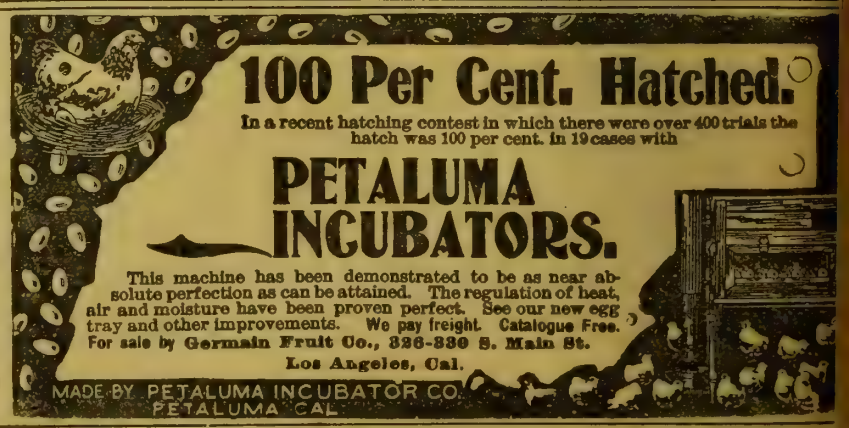
EGGS FOR HATCHING
From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
T. E. Mills - Lordsburg, Cal

SHOEMAKER'S BOOK ON POULTRY

and ALMANAC for 1904
There is nothing in the world like it. It contains the following: 212 large pages, handsomely illustrated. A number of most beautifully colored plates, true to life. It tells all about all kinds of Thoroughbred Fowls, with life-like illustrations and prices of same. It tells how to raise poultry successfully and how to treat all diseases common among them. It gives working plans and illustrations of convenient Poultry Houses. It tells all about INCUBATORS and BROODERS. It gives full instructions for operating all kinds of Incubators. This chapter is marvelously complete and is worth dollars to anyone using an incubator. It gives descriptions and prices of Incubators, Brooders and all kinds of Poultry Supplies. In fact, it is a encyclopedia of chickendom and will be mailed to anyone on receipt of only 15 cents. Your money refunded, if not pleased. Address
C. C. SHOEMAKER, Box 718, - Freeport, Ill

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations.
Don't believe all we say, but just enough to buy our Poultry Food
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

SAVE THE CHICKS
Peerless Chick Feed is the best balanced ration of pure, clean seeds, grains, meat meal, charcoal and grit known to the poultry breeders. The benefit derived by its use is marvelous, and is endorsed by all who have tried it. Prices: 100-lb. bag, $4.00; 50-lb. bag, $2.00; 24-lb. bag, $1.00; 5-lb. package, 25c.
HENRY ALBERS, 31 S. Main St., Los Angeles


100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL.

There May be Other Chick Feeds, but People Do Not Want Them

I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.

The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.

Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.

GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

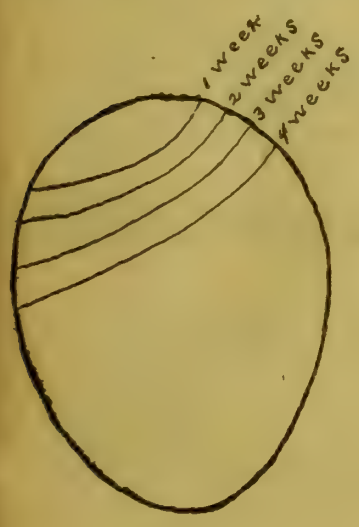
DUCK EGGS.

Answered by Mr. Hague.

Subscriber, Los Angeles: How soon after remating can one depend upon pure Indian Runner eggs from a pure I. R. duck that has been mated to a Pekin drake, and remated to a pure I. R. drake?

When I first started with I. Rs. I bought eggs from a party in California; when hatched I had two white duckling in the bunch. Of course I made a complaint. I got a return letter saying I was mistaken. This same party made inquiries about the Runners to the one they were purchased from and found that a flock of Pekins had been with them 18 months before. Would advise keeping the Indian Runner duck and drake in a pen by themselves, so that you can solve this proposition yourself. Pure bred Indian Runner ducks mated to a pure Indian Runner drake should not produce white ducks.

In hatching duck eggs and watching air cells in following cut, you should



have good results. A duck egg and a chicken egg are two different propositions when it comes to hatching them. If the air cell will not develop quick enough, run incubator dry. If it develops too fast add moisture using your own judgment.

For laying ducks feed two parts bran, plenty of boiled vegetables, one part blood, or blood, beef and bone, to every fifty ducks; put in one quart of fine grit or sharp sand. I feed light, flakey bran. If you can get bones from the butchers' boil them and use instead of blood.

* * *

Subscriber, Modesto: When ducklings are first hatched feed stale bread or cracker crumbs. Then make a cake of bran, corn meal and flour, equal parts; do not put any raising in this mixture; moisten with milk or water, let it be baked well done (hard), then grind it through your Enterprise meat-chopper. Feed four times a day all they will eat up clean. Feed this for two weeks, then feed a mixture of bran two parts, middlings 1 part, corn meal 1 part, with a good supply of sand mixed in; moisten and feed 3 times a day all they will eat up clean. By cooking the food it takes the rawness out of the cereals, and is a preventive of bowel trouble and weak legs. Have water before them at all times; have it arranged so that they can drink and not get wet and chilled.

* * *

D. F. C., Rivera—Any kind of a house will do for ducks, providing you keep it clean, with plenty of straw. Shavings make very good bedding for ducks for it absorbs the moisture, and helps to make labor lighter when cleaning. Your method of feeding seems to be first-class. You cannot wish for any better results. My method of housing and yarding ducks are: For breeding ducks, my pens are 75 feet by 150 feet, fence two feet high, runs are all in grass and clover, with a faucet and running water. My feed troughs are 16 feet long and V shaped.

Now for market ducks keep them closely yarded, keeping them quiet. You should get more than $4.00 per dozen for young ducks in Los Angeles. I have been offered 20 cents a pound for ducks by a Los Angeles firm and refused it. The water fowl industry will never be overdone, for the demand is greater than the supply. Work up a retail trade, kill and dress your own ducks and get the profits yourself.

This is about the worst month in the year for colds and roup. These can best be prevented by keeping houses warm and dry and avoiding drafts, especially at night.

The best form of lime for poultry is oyster shells or mortar lime. Grit should be in the pens at all times.

Hens that have full liberty will give more fertile eggs than those that have not.

You will get stronger eggs from old hens, but make your pullets do the winter laying.

GOOD ROADS.

While the people of this country have been expending their energies and means in contributing the best system of railroads upon the earth, there has been little attention given to building highways according to modern ideas. There has been no adequate system for maintaining them, and their condition in this age of general development and improvement is a disgrace to a civilized nation.

It seems to be settled beyond argument that the public roads in this country are to be improved. Argument is all on the affirmative side, and there is no opposition. The only question to settle is of the ways and means, and the attention of the people is being directed to national aid to road improvement as outlined in the bills before the late congress.

In countries that are famed for their good roads their general government is a large factor in their general management. Nearly a hundred years ago National Government was engaged in projecting and building extensive systems of public highways to develop the resources of the country, and probably would have continued such policy but for the rapid growth of steam railway systems that seemed better adapted to the needs of the expanding business and the increasing traffic of the country.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

Is a good book, well worth the subscription price. Every person handling chickens will get valuable pointers by reading this book, which tells in a short, concise, practical manner the best method of raising and marketing chickens and eggs. Sent postpaid to any address for $1.25.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

WHITE PLYMOUTH ROCKS

If you are after first-class White Rock eggs, you ought to see my stock before buying. Send for a circular if you cannot call. Closed Sundays.

Chas. T. Youngken,
151 E. AVENUE 55, LOS ANGELES, CAL.

HATCH IN SEASON—NOW

Selected Eggs, Guaranteed First-Class, $1.50 per Setting of 13

S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS

Eleanore Poultry Ranch

1½ Miles East of Glendale — P. O. Address, Garvanza

Incubator Chicks Hatched to Order

Darling's High Protein

BEEF SCRAPS

Introduced by us only two months past. Already endorsed by all the leading poultry raisers. $3.75 per 100 lbs. Special price made on large lots.

Farmers and Stockmen

All Use

Prussian Stock Food

We Carry a Full and Complete Line

GERMAIN SEED CO. 330 S. MAIN ST. LOS ANGELES

First-Class Incubators and Brooders

The "PACIFIC" is the most sensible Egg Hatching Machine yet invented and does its work perfectly without a nurse or night- watch. Send 4c for my 70-page Catalog No. 2. It tells all about them and has other practical matter on poultry raising, poultry houses, etc,, which makes the book worth a $ to anyone who keeps a dozen fowls.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec. 16, '03.
Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yonrs truly,
Mrs. A. N. Zumwalt.

Address **Wm. B. Dean,**
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Winning White Plymouth Rocks

Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART IX.

Remember in part seven of our story we mentioned about the place called Fallon's Creamery. In this chapter we will tell you about another of the places which is about one and one-half miles from Fallon's. It is W. W. Freeman's poultry farm and one of the largest in the country.

In order to get an early start we had our team hitched up before seven o'clock. It was a beautiful morning, the sun shone brightly on the beautiful green hills and valleys and all nature was in its glory. After about half an hour's drive we came to the place which we were looking for. There was a large white arch at the gateway on which was the words: "Residence of W. W. Freeman." We then turned into the gateway and drove up Automobile Lane. It is about one-fourth of a mile from the main road to the residence and on both sides of the lane are beautiful cypress trees. Our reasons for getting to this place so early in the morning was to be in time to see the most interesting thing on a poultry farm, and that is THE FEEDNG OF THE CHICKENS, and we had made arrangements with Mr. Freeman the day before that we would be there that morning if it was agreeable to Mr. Freeman. Mr. Freeman said we were welcome to come and that he would start in feeding the hens at about 7 o'clock. There are many people who think that the poultry business means keeping a few hens in the back yard and that poultry is kept for a pastime. We hope that such people will have an opportunity to read this story, for it will give them some idea of poultry raising as a business. At about half past 6 in the morning Mr. Freeman has 4 horses hitched up to the feeding wagon, for the feed and water for 3500 hens makes a heavy load to pull around over the hills, for in this section of the country it is all rolling land, some of the hills being 400 and 500 feet high.

On the front part of the wagon there sets a water tank that holds 200 gallons of water. A 2-inch hose is connected with the bottom of the tank and when the hose is hung over a rack at the top of the tank no water runs out. The feed trough on the back of the wagon is about 4 feet wide and 8 feet long and 3 feet deep.

One of the men takes from the feed house 3 sacks of Coulson's Balanced Ration Egg Food (at this time Mr. Freeman had on hand about 200 SACKS OF COULSON'S FOODS, about 135 sacks of EGG FOOD for hens and 65 sacks of CHICK FOOD for the little chicks). The three sacks of COULSON'S EGG FOOD are dumped into this feed trough along with 2 or 3 buckets of milk (they milk 35 cows on this place) and then it is all stirred up with a shovel and now all is ready to start out over the hills and feed a few thousand hens. On each side of this wagon is a railing or foot board (about 8 inches wide) to stand on, so we all jumped up on the side of the wagon and stood on these foot boards. After going about 50 yards we came to the first colonies where there were about 1000 six-month-old pullets that were laying a few eggs now but soon will be laying many more; there were 6 different colonies of about 175 to 200 birds to each colony. Now, at each colony there are three houses, two of them are roosting houses and one house for nests and also where the water fountains are kept and also connected with this house there is a hopper in which whole wheat is kept and the wheat runs out only as fast as the chickens eat it. At each colony a shovel full of Coulson's Balanced Ration Egg Food is thrown on the green grass and all the hens dive into it. A five-gallon water fountain is filled at each colony.

After feeding all the pullets we drove around a side of a big hill until we came to some of the colonies where the hens were and at each colony a shovel full of COULSON'S BALANCED RATION EGG FOOD was left. At times when driving around over the sides of these hills we expected to see the wagon tip over, but looking down at the wheels we discovered the secret. The wheels were made of steel rims about five inches broad and they were something like a mowing machine. In the center of each was a sharp, wedge-like projection sticking out about an inch clear around the rim of the wheels, so this was what prevented the wheels from slipping down hill.

The hills that morning did certainly look beautiful, as at this season of the year all are covered with green grass intermingled with all varieties of wild flowers.

Mr. Freeman's poultry farm comprises 300 acres of land and the poultry houses are scattered all over it, so that the feed wagon has to travel about two miles or over before getting around to all the colonies of laying hens. It was 10 o'clock before we reached the last colony of hens and so well was the feed distributed that we had one shovelful left for the last colony.

Now to feed those 2500 laying hens and 1000 pullets which are beginning to lay, it costs Mr. Freeman about $9 per day, a little less than $5 a day for Coulson's Egg Food and the balance for wheat.

At the present time these hens are producing over 1600 eggs a day or about 140 dozen and figuring the value at 20 cents per dozen would bring it up to $28 a day, so that Mr. Freeman makes a profit of more than $15 a day on the hens, which is equal to $450 a month.

Now, besides the hens, Mr. Freeman has between 4000 and 5000 chicks growing, which are being raised on Coulson's CHICK FOOD with splendid success. On this place there are four brooders houses containing little chicks 5 weeks old, between 400 and 500 in each house. Then there is one large brooder house containing 1000 chicks 5 weeks old. Then there are four more brooder houses containing all told 2000 little chicks about 4 days old. They all looked in splendid condition and were as nice a lot of chicks as we ever saw. All are being fed on COULSON'S CHICK FOOD. These little chicks will consume about 75 sacks of Coulson's Chick Food before they get 2 months old. Figuring the value of 75 sacks of Coulson's Chick Food to be $160, 4000 chicks at 4 cents each would be $160.

There are those who think Coulson's Chick Food expensive feed, but you can feed Coulson's Chick Food exclusive and not feed any other kind of

General birdseye view of W. W. Freeman's 300 acre poultry farm. Note the poultry buildings on the hills in the distance and there are a lot more on the other side of the hill. All poultry, large and small, on this place is fed Coulson's Poultry Foods every day. Coulson's Egg Food for the laying hens and Coulson's Chick Food for little chicks.

On W. W. Freeman's Poultry Farm. Four horses are hitched to the feed wagon for the feed and water for 3500 hens makes a heavy load. The feed box contains a mash made of Coulson's Balanced Ration Egg Food. A shovel full is left at each colony.

The laying hens are kept in colonies and are allowed a free range. A shovelful of Coulson's Egg Food is given to each colony once a day.

W. W. FREEMAN.

It's the man who demonstrates his ability to do things that gets his picture in the newspapers and magazines.

Successful Poultrymen Feed Their Laying Hens Coulson's Balanced Ration Egg Food

feed until they get 2 months old and it will not cost any more than 6 or 8 cents per chick and on Coulson's Chick Food you can raise the most chicks, and the nicest, healthiest and largest chicks for it puts into them flesh, bone and muscle as well as vigor and health.

Mr. Freeman feeds the COULSON'S and fed to the chicks and they eat it with great relish.

After seeing all these many thousands of chicks and laying hens, we were surprised to hear the dinner bell ring, but we had seen so many things of interest that morning that the time passed very quickly. Mrs. Freeman invited us into dinner with us and we didn't feel any jars even when going over the rough places. Mr. Freeman travels up the steepest and roughest of hills with this machine and can run it up a flight of stairs. We were so much taken up with this machine that we may purchase one ourselves as it can be run for one cent a mile and is cheaper than railroad fares and much more time can be gained.

Mr. Freeman's automobile is a Knox 1904 latest improved machine, valued at $1400, ten horse power and can travel 30 miles an hour. Mr. Freeman took us along the road at a gait that almost took our breath away and made our hair stand on end and yet we traveled so easily and smoothly we didn't feel any jars even when going over the rough places. Mr. Freeman travels up the steepest and roughest of hills with this machine and can run it up a flight of stairs. We were so much taken up with this machine that we may purchase one ourselves as it can be run for one cent a mile and is cheaper than railroad fares and much more time can be gained.

A typical early morning scene in Petaluma. (The way Coulson's food is delivered to the large poultry farms.) Five big wagonloads of Coulson's food going to W. W. Freeman's poultry farm. 200 sacks of Coulson's Balanced Ration Egg Food for Mr. Freeman's 3500 laying hens and 75 sacks of Coulson's little chick food to feed the 5000 little chicks that Mr. F.reeman is raising.

On W. W. Freeman's place. A bunch of 4 weeks old chicks outside the brooder eating Coulson's Chick Food.

Mr. Freeman has between 4000 and 5000 chicks from 1 week to 6 weeks old and all being fed on Coulson's Chick Food with splendid success. These chicks will consume nearly 75 sacks of Coulson's Chick Food before they get 2 months old.

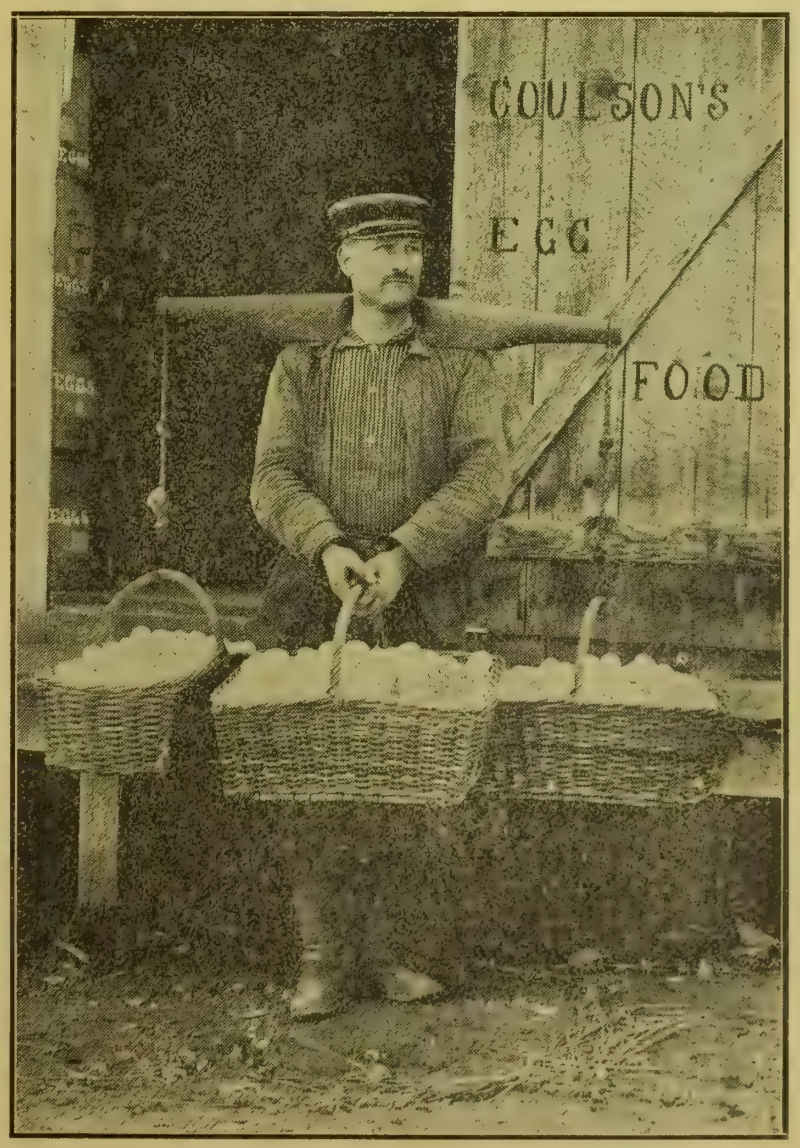
You can raise chicks until they are 2 months old with 8c worth of Coulson's Chick Food for each chick.

Residence of W. W. Freeman. Also showing Mr. Freeman with his automobile Mrs. W. W. Freeman on the front seat. Mr. Freeman buys Coulson's foods by the carload.

CHICK FOOD in long troughs and it is fed dry. There are some who moisten the Chick Food with milk or water, then it is put into long pans and baked in the oven for 15 or 20 minutes, and then it is crumbled up and fed to the chicks and they eat it with great relish.

After seeing all these many thousands of chicks and laying hens, we were surprised to hear the dinner bell ring, but we had seen so many things of interest that morning that the time passed very quickly. Mrs. Freeman invited us into dinner with them and we were taken into a splendid diningroom, neatly and tastefully arranged and everything looked very inviting and we enjoyed our dinner very much. After dinner Mr. Freeman took us out for an automobile ride.

Mr. Freeman's automobile is a Knox 1904 latest improved machine, valued at $1400, ten horse power and can travel 30 miles an hour. Mr. Freeman took us along the road at a gait that almost took our breath away and made our hair stand on end and yet we traveled so easily and smoothly we didn't feel any jars even when going over the rough places. Mr. Freeman travels up the steepest and roughest of hills with this machine and can run it up a flight of stairs. We were so much taken up with this machine that we may purchase one ourselves as it can be run for one cent a mile and is cheaper than railroad fares and much more time can be gained.



Part of one day's gathering. There is more than 1000 eggs in these baskets. Mr. Freeman has carried one thousand and seventy-six (1076) eggs at one time and packed them down the hill. Some days they get over 2000 eggs on this place. Three sacks a day of Coulson's EGG FOOD does it.

Now, this story was not written to make people think that any one can go into the chicken business and get rich quick, but we do want to impress upon the minds of those who are already in the poultry business that they can make more profit out of poultry if they will feed the laying hens on COULSON'S EGG FOOD and raise the little chicks on COULSON'S CHICK FOOD.

There are many poultry foods that are cheaper in price but NONE SO GOOD AS COULSON'S. Price of Coulson's Egg Food $1.65 a sack; 10 sack lots $1.55 a sack.

Price of Coulson's Chick Food $2.20 per sack. These are factory prices at Petaluma. Prices in other towns will be more, according to freight.

If you have never used these feeds, send for samples.

A. R. Coulson Co.,

INC.,

772-774 Main Street

Petaluma, California

The next story will be about a 775-acre poultry farm and over 100,000 fowls on the place. Don't miss it.

THE DAYS GONE BY.

O the days gone by! O the days gone by!
The apples in the orchard and the pathway through the rye;
The chirrup of the robin, and the whistle of the quail
As he piped across the meadows sweet as any nightingale;
When the bloom was on the clover, and the blue was in the sky,
And my happy heart brimmed over, in the days gone by.

In the days gone by when my naked feet were tripped
By the honeysuckle tangles where the water lilies dipped,
And the ripples of the river lipped the moss along the brink,
Where the placid-eyed and lazy-footed cattle came to drink,
And the tilting snipe stood fearless of the truant's wayward cry,
And the splashing of the swimmer, in the days gone by.

O the days gone by! O the days gone by!
The music of the laughing lip, the luster of the eye;
The childish faith in fairies, and Aladdin's magic ring—
When life was like a story, holding neither sob nor sigh,
In the golden olden glory of the days gone by.—James Whitcomb Riley.

Larry's Jealousy of an Adopted Boy.

"All right," assented Larry Healy.

"I'll go, but I don't know what the folks will do without me."

"I will see to that, Larry. You can trust them with me, can't you?"

"Yes, or I wouldn't say that I would go, but you know how it is. A fellow can't help thinking about his own family when he is going so far away."

There was a suspicion of a lump in Larry's throat, but he swallowed it and blinked hard to dry his eyes of the tears that threatened to brim over. He was having tea with Miss Gilbert, and he scraped out the last of the sugar from the bottom of the pretty Chinese cup, ate the last crumb of cake from his plate and said he would have to be going. He and Miss Gilbert were old friends. He had sold papers on her block for years and they had been acquainted almost as long—ever since the day when his papers got wet and she had come along and dropped her purse. No one saw him pick it up, and he ran home with it, stopping only to buy some bread and meat. His mother had wept for joy, calling him her blessing, and his brothers and sisters had hugged him. Larry had refused to eat any of the food, however, and the next morning he went to Miss Gilbert's house. He knew where she lived, for more than once he had followed her and opened the gate and got a penny and a smile for doing it.

"I found your pocketbook," he said, bluntly, when he had fought his way into her presence past the unwilling servant. He pulled it from his pocket and handed it to her. "There's 28 cents gone," he explained, "but I'll try to make it up to you before you need it very badly. P'rhaps you'll take a paper from me ev'ry day till I pay you off."

"Yes, I'll do that," said Miss Gilbert, "and now let us have some breakfast and talk it over."

She did not reproach him for taking the money or ask him question so he told her the truth about it and felt better. Then he had such a good breakfast that he did not mind in the least having missed his dinner the night before, and he did not have anything to eat again until evening, which was a great gain. Although Miss Gilbert had not scolded about the money, Larry realized that he had come near being a thief and he promised himself that he never, never again would take a cent that was not his, not if it fell right in his hand, and it was not because he was afraid of the cop or lockup. It was just because he wanted to be on a level with Miss Gilbert. Those were his words.

Larry had stopped playing hookey after he and Miss Gilbert became friends and he got on in school surprisingly well. That was partly because she talked to him about things in the text books so that they became real and partly because she gave him other interesting books to read. His fortunes prospered, too. Every one in Miss Gilbert's neighborhood bought papers from him and there were always things to be done after school and on Saturday that brought him more money than he had earned when he stayed out of school to work.

Larry was 15 now and friends of Miss Gilbert's in the west wanted to adopt him.

"It's a good chance for you, Larry," she said. "They will educate you and give a fine start in life."

"P'raps they wouldn't like me," suggested Larry.

"I think they will. They are willing to take you on my recommendation. Don't you see, boy, that it is the chance of a lifetime for you?"

"Yes, I see, Miss Gilbert, but it's kind of hard to think of going away from the place you were born in and everybody you know, and the kids are awfully fond of me."

"Yes, I undestand, and if I did not think you were a brave boy, who would undertake a hard thing, I would not ask you to go."

Arrangements for Larry's going to the Underwoods were soon completed. Even his drunken father sobered up the day that he started on his journey and went to the railroad station to see him off. His mother was there and the three younger children. Everybody kissed him and cried, and they gave him candy and peanuts in paper bags that kept bursting out, and little Mamie begged him to take her doll that had lost one leg and one arm.

Larry had looked white and had been miserable while all of this fuss was being made, and he was relieved when the conductor shouted "All aboard!" and he had to run to get on his train. As the familiar landmarks slipped by him he began to feel ill and had an inclination to jump off the train.

"I see you're not going into the smoking car," said the fat man opposite him at that moment.

"No," replied Larry.

"Neither am I. Going far? Omaha, eh? All right; let's be friends. Here's my card. Give me yours."

On the card that the fat man handed Larry was engraved the name "Theophilus Whitcher," and underneath was written in pencil, "friend of Miss Anita Gilbert."

"O, do you know her?" asked Larry.

"Well, I should say I did. I live on a ranch in Wyoming now. Ever been on a ranch? Well, it's a big place, and you must come and visit me sometime. But I used to live on a farm in Vermont, and the Gilberts had a place up there and used to come to it in the summer. Just as I was rushing to this train I bumped into Anita Gilbert and shook hands with her and says: 'Sorry I can't stop, but I'm off for the west.' 'Look out for my protege, Larry Healy. I'm sending him west to the Underwoods," she called after me. I spotted you right away as the kind of boy Anita Gilbert would be likely to send to the Underwoods. I know them, too, for they used to come to Vermont in he summer."

Larry found in Mr. Whitcher a pleasant traveling companion and the novelty of the trip soon diverted him from the sorrows of parting. The last week had been a mad whirl in which all kinds of events were inextricably mixed. There had been a lot of shopping. He had a large new trunk full of all kinds of clothes different from any he had ever owned. He himself had been through a Turkish bath and was dressed in a brand new outfit from the skin out. His bag contained more brushes and other toilet articles than he knew how to use. He had a new pocketbook containing besides his railroad ticket, $10, and he had more money in a bag around his neck. Magazines filled with pictures by his side, but when he was not talking with Mr. Whitcher he was interested in looking out the window. He was just beginning to tire of this occupation when Mr. Whitcher looked at his watch and said: "Time for dinner, I think. Come along," and led the way to the dining car. Larry was glad Mr. Whitcher was with him, for there were so many things to eat that he could not have decided what to ask for. Mr. Whitcher decided for him, and all he had to do was to eat and wonder if he were awake or dreaming.

At Chicago Mr. Whitcher left him, but Mr. Underwood met him; so that they had a good chance to get acquainted before he reached his new home. Mr. Underwood did not talk as much as Mr. Whitcher, but Larry decided that he liked him.

"Mother, this is our son Lawrence, that God put it into the heart of Anita Gilbert to send to us," said Mr. Underwood as he and Larry entered the wide hall where Mrs. Underwood was waiting for them.

"My son, I am glad to see you," Mrs. Underwood said, taking him by the hand and kissing him on the forehead. "I will show you your rooms, and I hope you will be happy in them. Here is your sitting room, or study, or den —whichever you choose to call it—and this is your bedroom."

The next three years sped by so rapidly that Lawrence Healy Underwood did not have time to realize that he had become another person. He did not forget his family or Miss Gilbert, and he wrote to them regularly; but his life was so filled with new things that he could not dwell upon the old ones, and it was not until he had turned his face eastward to enter college that he began to wonder how he should feel to go back to his old surroundings. He was to spend a week with Miss Gilbert and to see his family before going to the university. His examination had been passed, and he had nothing to worry him. He had made many friends in Omaha, and two of his chums were to enter college with him.

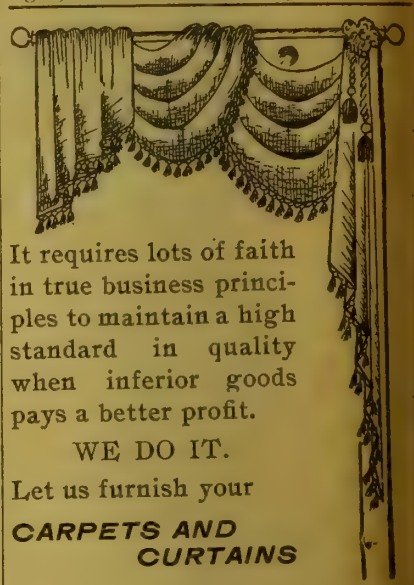
"What a splendid fellow you are, Larry," exclaimed Miss Gilbert as she met him at the station. "I should hardly have known you."

His family were a little afraid of him at first, but when he told them funny stories, took them to the theater, and gave them the presents he had brought for them and those the Underwoods had sent, they began to look upon him as a good fairy, and were as ready to cry when he left them for college as they had been when they saw him start for the west.

"Dear father and mother," wrote Larry to Mr. and Mrs. Underwood, "coming back to the place where I used to live has made me realize how much you have done for me. Now, I am going to ask a great, big favor of you. I would not dare to do it if I did not know how happy it makes you to make some one else happy. My brother Jim is a fine fellow, but he has no chance. If you would let him come and live with you while I am in college I am sure you would not be sorry for it."

"My dear son," wrote Mr. Underwood in reply, "of course we would like to grant your request, but we already have arranged for a boy to be with us while you are away, and we are expecting him within a few days. We will talk about Jim when you come home for the Christmas holidays."

Larry said to himself that it was all right, but he could not help feeling dis-



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appointed, and he decided that he did not like that other boy. The Underwoods merely referred to him in their letters as "the new boy," and Larry did not even ask his name.

It was the one thing that clouded his anticipation of a happy vacation.

"I suppose the new boy is still here?" he remarked to his father as they drove home from the station.

"Oh, yes."

"By the way, what is his name?"

"His name is James. Well, here we are."

The door was thrown open and the light streamed out upon them.

"You great, big, fine Larry!" cried Mrs. Underwood, putting her arms around him. There seemed to be an army of people behind her, but it turned out to be only Miss Gilbert, Mrs. Healy, Mamie, Josephine and Jim.

"How did you all get here?" demanded Larry as soon as he released himself from their embraces "and where is the new boy?"

"It's a Christmas gift!" they shouted. "Mr. Underwood brought us all here to give you a surprise party."

"It's a fine one. But where is the new boy?" he repeated.

"Here he is," they laughed, pushing Jim forward. Jim shook hands and laughed, too.

"Have you been here all the time?"

Jim nodded.

"We knew all about it," put in Miss Gilbert, "and we were so afraid we would let the story out."

"You kept it mighty well. And to think that I've been a bit jealous of that new boy!"—Alex. Townley.

CAREFULNESS WITH CHILDREN.

Never use violent language or violent gestures to a child, for if you do you will frighten it into being untruthful, for lies are the refuge of the weak, and especially of the young, who do not realize the enormity of the offense. A child who is frequently punished, and who is scolded violently, will use the readiest means to save himself, and lying seems to him to be the surest means and the easiest, especially if he knows that his elders prevaricate.—Ladies' World.

RECIPES

Eat Little, but Have That Little Good

GOOD BREAD.

My summer vacation was spent on a large farm lying on the Iowa side of the Mississippi river. The mistress of the model farm house was also the "cook lady." and she made the finest bread I even tasted. It was moist, fine-grained, fairly velvety in texture, and particularly sweet flavored. The following is her recipe: Take one dry yeast cake (this will act as leaven for four large loaves of bread and two dozen plump dinner or tea biscuit) and soften it in a coffecup of lukewarm water, stir in flour enough to make a thick batter ("sponge" my hostess called it), beat well, cover closely and set where it will not become chilled. Do this aobut supper time. In the morning scald two quarts of thickened, slightly soured milk, drain off the whey (use the curd for cottage cheese) and add it to the now foamy sponge. Add also a level tablespoon of salt, and a heaping tablespoon of lard. The whey of course must be cooled to a little over the lukewarm degree before adding to the yeast mixture. Now add flour sufficient to make a batter as thick as pound cake, and beat vigorously for at least fifteen minutes. Then add flour and knead until a soft, elastic, non-sticking mass is the result. Twenty minutes is none too much to devote to this stage of the proceedings. Set to rise and when doubled in bulk, cut down, and when it has risen again divide into five parts, mold four parts into loaves and one into biscuits, brushing the latter all over with melted butter; when doubled in bulk bake, the bread requiring about fifty minutes and the biscuits twenty-five in a properly heated oven.—Good Housekeeping.

HOMELY HINTS.

The following is a good moth solution to be used as a spray or upon blotting paper placed in wardrobe, etc.: Carbolic acid, 1 ounce; camphor, 1 ounce; benzine, 1 pint. Dissolve. On account of the inflammable properties of benzine great caution should be taken in preparing the solution.

To keep sandwiches moist for a few hours until serving time, wrap them carefully in a dampened napkin and put them in a closely covered tin box.

To Make Javelle Water—Dissolve one pound of sal-soda in one quart of boiling water. Dissolve half a pound of chloride of lime in two quarts of cold water. Let the mixture settle and then pour off the clear liuquid. Mix this with the dissolved soda, bottle and keep in a dark place.

How to use Javelle Water.—The French use this preparation a great deal in the work of the laundry, and it seems to me well worth the while for others to copy their example when the water is hard. For whitening clothing they put two or three tablespoonfuls of the liquid into the water in which they boil the clothing. To remove velle water with its own volume of cold water. Soak the article in this until the stain disappears, then rinse thoroughly in several clear waters, and finally in diluted ammonia water. stains from white goods, dilute the Ja-Javelle water removes almost all stains and all colors, therefore it should not be used on colored articles. If articles are allowed to remain in the Javelle water for a long time it will injure the fibre.

For the poison from oak vine use tincture of lobelia, which may be had of any druggist. Dip a camel's hair brush in the lobelia and paint the inflamed surface with it as often as the eruption gives uneasiness. In a short time all inflammation will disappear.

To Set the Color in Wash Fabrics.—I learned from a retired dry-goods merchant that if ginghams, lawn, dimities or other delicately-colored summer fabrics were dipped in a solution of hot salt water in the proportion of one pint of salt to one gallon of water, the colors would never fade. This should be done before the cloth is cut, after which it should be smoothly ironed.

HAPPINESS.

The best things are nearest; breath in your nostrils. light in your eyes, flowers at your feet, duties at your hand, the path of God just before you. Then do not grasp at the stars, but do life's plain common work as it comes, certain that daily duties and daily bread are the sweetest things of life."

Major (indignantly)—What do you mean, sentinel, by sleeping at your post? If the enemy should appear you would be lost.

Sentinel—Don't worry, major. I haven't an enemy in the whole city.—Fliegende Blatter.

The Farmer as a Reader.

Extract from a paper by Edgar W. Pasko read at Cucamonga Institute.

The American farmer stands on a higher plane of both comfort and intelligence than the corresponding class in any other country in the world; and the California farmer occupies the very forefront among his favored countrymen. Much of this may of course be attributed to the genius of American institutions, but the most of it is attributable alone to the fact that he is a reader. The reign of the "rule o' thumb," has passed by, for reading has brought in a better condition. How to "make two blades of grass grow where only one grew before," caused a reaching out after the opinions and experience of others. There came a day of seeking for information concerning new markets, better transportation, larger crops, the more perfect utilization of local peculiarities of soil, climate and labor, finer varieties of fruits, grains, nuts, berries, and all else that farmers deal in. The huge interrogation mark which so aptly characterizes this age, became a part of the agriculturists' equipment, and it became necssary to satisfy its queries. How? By exchange of brains. How exchange? Primarily, principally, by reading. One can meet only a few people even in a life time; but by reading we can meet multitudes.

The seeking for a wider, deeper knowledge resulted in the demand being met by a rich supply of specialists and of special reading. From every publishing center in the land flowed forth a steady and increasing stream of good reading matter. Agricultural papers came out adapted to every field of need.

Then, too, with the rise of so many papers and magazines, the various State governments took hold vigorously, and agricultural colleges and experiment stations were established everywhere, from the presses of which were constantly issued a vast amount of scientific, accurate, helpful information.

Just a word or two concerning the point of the value of scientific work and publications. It is estimated that the Division of Entomology of Washington is saving the people of the southern states yearly the great sum of $125,000,000 to $187,000,000 by their method of fighting the cotton-boll weevil. Again, the sum of $350,000 is being saved annually by the experiment stations in Texas alone by the inoculation and quarantine methods of treating the Texas cattle fever.

The farmer must read to be wise and prosperous; a reading farmer does not belong to Markham's "Man with the Hoe" class.

Leaving now this material side of the subject of the farmer as a reader, let us consider another phase. As Dean Bailey of the college of agriculture at Utica, New York, says, the time is surely coming when agriculture will not only be taught as a vocation, but regarded as a "culture study." Not only to dig and plow and cultivate, but to look at a field flower and enjoy its beauty and esthetic teachings; not only to sow and reap, but to investigate the chemistry of the crop.

The opportunities for culture possessed by the farmer are varied and extensive, full of beautiful possibilities. With the book of nature before our eyes constantly, open to be read and enjoyed by every man, there is much to elevate and delight. Close to nature is close to God.

Every farmer will of course have his own papers, magazines and other literature, but oftentimes this is necessarily limited. Then we have the neighborhood circulating or public library, to fill out and round out our needs. California is to be congratulated in having a State librarian, who is progressive, and who has just inaugurated a system of traveling libraries for rural settlements, just the place where agriculturists live. With these libraries of fifty volumes each, renewed every three or six months, there is a constant stream of fresh literature flowing into the country hamlet, that keeps its people abreast of the rest of the world, cultivated as well as informed. Then when this traveling library is supplemented as it is at Cucamonga, by a small local collection, its value is enhanced very much. Here we have a growing collection of good books, free to the public, all of them given by residents. Through this library we are put in possession of the results of the studies of experts, for these bulletins cover the whole range of topics, that farmers are concerned in, from trees to violets, from bantams to draught horses.

The vital need in this condition of affairs is a desire and willingness to read. Few of us can afford a fine education, although that is coming nearer and nearer to our reach as the years pass. But reading is at our hands. We can have the useful, the serious, the helpful, the uplifting, the esthetic. Such periodicals as Country Life, Outing, etc., are means of uplift and culture as well as profit. Then let us read, read to become full men, full of wisdom and good works, of comfort and prosperity.

FARMERS' TELEPHONE.

Every progressive farmer should have a telephone, says Country Life in America. He cannot afford to be without one. Time is money, and the telephone saves time. It is easier, quicker and cheaper to talk than it is to walk or ride. The time has arrived when we must realize the importance of being in touch with our neighbors and with the world.

Communities should build their own telephone lines if they can not get satisfactory service at reasonable rates from existing companies. It is a considerable undertaking, but the country is already dotted with independent telephone exchanges thus established which are eminently successful.

The first thing to do in organizing a telephone company is to agitate the question and make the neighborhood understand its great value; that it is a good business investment, a public improvement, a distinct social advantage and a positive personal convenience; that a telephone in the house enables one to call a doctor without dangerous delay, to give immediate alarm in case of fire or burglars, to avoid a needless trip to town, to call the butcher, the baker, the grocer and to bring one into quick touch with the railroad, the telegraph, the postoffice or the bank. The telephone enables the busy farmer to transact business at the farm that would otherwise necessitate his absence from home. In a large measure it eliminates the only strong objection to farm life—isolation. With a telephone in the house the farmer's wife is never alone. Every subscriber is, as it were, in the next room. The best proof of its value is—the fact universal—that people who once have a telephone seldom have it taken out. The only objection against the farmer's having a telephone was by a man who wanted an excuse to go to town. He could not get any satisfaction out of a drink of whisky over a telephone wire.

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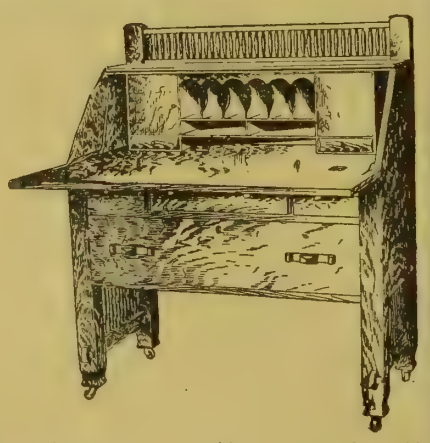

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WHEN WRITING TO ADVERTISERS PLEASE MENTION CULTIVATOR

Los Angeles Markets.

Los Angeles, May 5, 1904.

Relative to the fact that there are over twenty thousand more people in Los Angeles than there were several days ago, all business has assumed a better tone.

The demand is growing on all varieties of the local market and a general rise is looked for within the next few days. Our advice to the producer would be to hold on for about ten days, and better prices can be obtained.

But few changes from last week's prices are noted today. Prices range as follows:

Butter.

Butter is coming into the local trade better than has been reported for some time past. The demand is increasing, however, and prices hold steady.

B. of T. Cream', 2-lb roll		40
Valley creamery, fancy..	40	
Coast Creamery		37½
Cooking, per lb		18

Cheese.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	16	
Northern	14	15
Swiss	21	
Imported do	28	

Eggs.

A continuation of the scarcity of eggs is prevailing. Prices are advancing. Demand is increasing and local dealers contemplate trouble in coming anywhere near supplying their customers.

Fresh ranch	22½	23
Store, case count	20	21

Poultry.

Spring chickens, per lb	20	22
Hens, No. 1, per lb	14	15
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

The price of potatoes is steadily advancing with a sharp demand on all varieties. As new stock will be late this season, a still higher quotation is in evidence.

River, per cwt	2 00
Oregon, do	1 90
Local Sweets, white	3 25
Early Rose seed	2 35
Pinkeye, do	2 15
Nevada Pearls, do	2 15

Vegetables; Mixed.

All varieties of vegetables are moving under a good demand. Most commodities are coming in plentifully and the grade is reported to be of the best.

Onions, Nevada, fancy		4 00
Onions, Silver skin		.04
Beets, per 100 lbs		1 25
Cabbages, do		1 25
Green Peas	03	05
Lettuce, per sack		40
Tomatoes, 25 lb crate		1 60
Celery	25	30
Hubbard squash, per ton		20 00
Carrots, per sack		85
String beans	08	
Chiles, string		75
Chiles, green, per lb	10	
Rhubarb	75	90
Asparagus	06	12

CITRUS FRUITS; FRESH

Fancy, 126s, per box	2 00
Do, 150s	1 50
Do, 176s,	1 25
Do, 200s,	1 00
Standards	50
Lemons, fancy, per box	1 50
Standard, do	75
Grape Fruit	1 25
Limes, per 100	90 1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		1 75
Four ½ tier, do	1 50	
Pears, Winter Nellis 40lb bx	1 65	1 90
Northern apples, 40 lbs.	1 00	1 50
Strawberries	05	08
Loquats		05

Fruits; Dried.

Apples, evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	07½	08
Peanuts, California	07½	08

HONEY.

White strain, per lb	07
Light amber, do	06
Comb, water white	15
Do, light amber	13

Hay and Grain.

From reports received this week relative to the new crop of hay, dealers claim that the conditions are such that there will be an abundance of hay, but a small yield of grain, thus making hay cheaper and raising the price on grain.

Hay continues to be offered in lots sufficient to care for the trade, though no large lots of the new arrive. Alfalfa is quoted $1.00 lower this week.

Alfalfa	9 00	11 00
Tame Oat		12 00
Barley hay	10 00	13 00
Wheat hay		12 00
Oats	1 25	1 35
Wheat	1 45	1 55
Barley	1 15	1 17½
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30
Bran	1 30
Feed Corn Meal	1 50
Middlings	1 45
Cracked Corn	1 45
Oil Cake Meal	1 85
Chicken Wheat	1 65
Cocoanut Meal	1 50

San Francisco Markets.

San Francisco, May 4, 1904.

Dairy.

Butter is being offered in liberal amounts and some large contracts are bing filled. Holders of favored brands are demanding firm prices. In the cheaper sorts there is some shading of prices.

BUTTER—Per lb:

Creamery, extras	19
Creamery, good to fancy	18 @18½
Dairy, extra	17 @17½
Dairy, choice,	15 @16
Store	14

The demand for cheese is moderate and only fancy lines bring the best quotations.

CHEESE—Per lb:

California Creamery, mild new, extra	10 @11
California Creamery, new mild, choice	8 @ 9
Young America	10 @11½
Eastern, New York Cream, Cheddars and flats, new	15 @16

Eggs and Poultry.

The demand for eggs continued buoyant and the better selections ruled firm at full values. Supplies keep closely cleaned up and general trade conditions are in favor of the selling interests. Storing continues in progress on a large scale and available supplies in the open market are held down.

EGGS—Per doz:
Ranch, selected large .....22 @22½
Ranch, good to choice .....20 @21
Store .....18 @19
California storage .....Nominal
Eastern .....Nominal

The demand for large young poultry continues buoyant and available offerings are quickly absorbed at strong prices. For old stock the market is depressed under free offerings of both local and Eastern descriptions and prices are easier and lower.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $7.50@8.50; Fryers, $6@7; Broilers, large, $3.50@4.50; small, $2@3; Hens, small, $4.50@5; large, $6@6.50; Ducks, per doz., old, $5@5.50; young, $6@6.50; Live Turkeys, per lb., 15@17c; Geese, per pair, $1.50@2; Goslings, $2.50@3.50; Pigeons, per doz., old, $1.25@1.50; Squabs, $1.50@2.

Fruits and Vegetables.

Oranges show a firmer price and the demand is good.

BERRIES—Per chest: Strawberries, Longworths, $8@12; large varieties, $4@7.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.50@2; choice, $1@1.50; standard, 65c@$1, according to size; Seedlings, nominal; Lemons, $1.25@2.75; Grape Fruit, $1.25@2; Tangerines, 75c@$1.25; Limes, $4@5.

VEGETABLES—Asparague, per lb, 4@7c; tomatoes, per box or crate, southern, $1@1.50; do Mexican, $1.25@1.75; rhubarb, per box, 35@75c; green peppers, per lb, 17½@25c; dried peppers, Stockton, 5@8c; Southern, 8@12½c; string beans, per lb, 10@17½c; wax, —; green peas, per sack, $1.25@1.75; garden peas, per lb, 3@4c; egg plant, per lb, 15@20c; summer squash, per box, $1@1.25; cucumbers, hothouse, per doz, 50c@$1.25; garlic, per lb, 15c; dried okra, per lb, 12½c; marrowfat squash, jobbing at 1@2c per lb.

POTATOES—Per ctl; River Burbanks, $1.40@1.65; early rose, $1.40@1.60; river reds, $1@1.10; garnet chile, $1.65@1.85; Oregon Burbanks, $1.60@1.80; new potatoes, per lb, 2@3c.

ONIONS—Per ctl: Oregon, $2.60@2.75; Australian, $3@3.25; Green Onions, per box, 50c@65c.

Dried Fruits, Nuts, Etc.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are per lb, as follows:

Apples—Evaporated, 4½@6c; Sun dried, 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice, 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 5¾@6½c; fancy, 7@7½c; peeled, in boxes, 11@14c.

Pears—Bartlett, fancy, 11½c; choice, 9½@10c.

Hops.

The price for new crop is 25@27½c per lb., according to quality.

Beans.

BEANS—Prices per ctl: Large Whites, $2.60@2.75; small do, $2.90@3.15; pea, $2.90@3.15; lima, $3.30@3.40; red, $4.50@5; pink, $3.20@3.40; bayo, $2.40@2.55; blackeyes, $2.05@2.25; kidneys, $4.75@5.

Live Stock.

Sharp depreciations are noted in values for Hogs under heavier offerings and the cautious buying of packers. The top quotations are extremes and buyers are particular in their selections when paying this rate.

HOGS—Per lb.: Hard grain fed, weighing alive 130 lbs and over, 5¼@5½c, weighing 250 to 300 lbs., 5@5¼c; rough heavy, 4@4½c.

CATTLE—No. 4 Native Steers, 9½@10c; second quality, 8½@9c; thin Steers, 7@7½c; No. 1 Cows and Heifers, 7@7½c; second quality, 6½@7c; thin Cows and Heifers, 5@6c; Bulls and Stags, 3½@4½c. Prices for all descriptions less 50 per cent for shrinkage.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $13@15; Wheat and Oat, $12.50@15; Oat, $11@13.50; Barley, $11@13; Clover nominal; Alfalfa, $10@12; Stock, nominal.

FEED CORN MEAL.—Choice grades, per ton, $30@31.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

GROUND BARLEY—Per ton, $23.50@$24.

MIDDLINGS—Per ton, $27@29.

BRAN—Per ton, $21.50@22.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 shipping, per ctl., $1.37; choice, $1.50; White Milling, good to choice, $1.42.

BARLEY—Choice No. 1 feed, $1.06¼@1.12; off grades, $1.03¾@1.05; brewing No. 1, $1.12½@1.17½; Chevalier, nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small, do, nominal; White, $1.37½@1.45; Eastern, $1.32½@1.40.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@$1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

NEW YORK, May 5.—The market for evaporated apples is quiet, with demand light and holders asking recent prices. Common, 4@5¼, prime, 5¾@5¾; choice, 6¼@6½; fancy, 7@7½; Prunes are somewhat unsettled, owing to lower offerings on the coast, and some pressure to sell in local markets. Prices range from 3 to 5¾, according to grade. Apricots are in moderate supply, and held firm; choice, 9½@10; extra choice, 10¼@10¾; fancy, 11@13. Peaches are in fair demand at recent prices; choice, 7¼@7½; extra choice, 7¾@8; fancy, 9½@10.

Chicago Live Stock.

Chicago, May 5, 1904.

The wheat market has shown a tendency to weakness owing to reports that the crops would be heavier than was anticipated early in the season, in Michigan, Missouri and Ohio. Washington and Oregon shows better than was estimated, hence the decline in price as shown in the quotations.

Cash quotations were as follows: Flour was quiet and steady; No. 2 spring wheat, 90@93; No. 3, 87@92; No. 2 red, 1.02; No. 2 corn, 47¾@48¼; No. 2 yellow, 51½@52; No. 2 oats, 40⅞@41⅜; No. 3 white, 40@43; No. 2 rye, 69¾; good feeding barley, 32@37; fair to choice malting, 45@55.

On the Produce Exchange today the butter market was steady; creamery, 14@23; dairy, 13½@21; eggs, easy, 15¾@16; cheese, easy, 8½@10½.

Dried Fruits, Nuts, Etc.

NEW YORK, —.—The market for evaporated apples continued quiet, and the tone is no better than steady. Common are quoted at 4@5¼; prime at 5½@5¾; choice, 6¼@6½, and fancy, 7@7½. Prunes are quiet and generally unchanged at 5@5¾, according to grade. Apricots are in fair demand and offerings rule firm. Choice quoted at 9½@10; extra choice, 10¼@10½; fancy, 11@13. Peaches attract a reasonable inquiry, and are steady; choice, 7¼@7½; extra choice, 7¾@8, and fancy at 9½@10.

CITRUS MARKETS

AUCTIONS.

A generally improved market has stimulated prices for smaller grades of oranges and the demand is good for classes heretofore at discount. The Agency sales within the past few days have been greater than at any time for a month. Favorable weather has had much to do with stimulating the demand for smaller fruit, as hucksters have had opportunity to get around and dispose of their purchases. Quite an optimistic view of the future is taken by those who are studying the market conditions. The worst seems to be over and a brighter prospect is thought to be before the orange growers.

PHILADELPHIA Pa., April 29th, 1904.

NAVELS.

Victoria, Riv., C. B. Sta., $2.30; Orchard Run, $2.05.
Blue Mtn., Riv., Riverside, $2.20; Humming Bird (Seeds), $2.10; La Mesa, $2.35; Golden Rule, $2.10.
Violet, D. M. Ex., Duarte, $2.00; Violet, T. I., $2.05.
Pointer, A. C. G. Ex., Azusa, $1.90.
Pointer, A.C. G. Ex., Lateen, $1.75.
Iris, D. M. Ex., Duarte, $2.30.
XX, Cov. Ex., Savoy, $1.85.
Independent, Carson, Highland, $2.15, $2.05.
Highland, Highland F. G. A., $2.10, $2.05.
Cactus, C. C. U., Highland, $2.00.
Sapphire, C. C. U., Covina, $1.85.
Seal of Cal., C. C. U., Ontario, $2.00.
Atlas, C. C. U., Redlands, $2.10; Tiger Head, $2.00, $2.05; Monogram, $2.10; Camellia, $2.20.
Tally Ho, S. B.Ex., Rialto, $1.85.
Echo, S. T. Ex., Pasadena, $1.45.
Swan, S. B. Ex., Redlands, $2.25.
Alhambra, S. T., E. Alhambra, $2.05.
Queen's Taste, McClenny & Co., $2.20, $2.15.
Alhambra, Alhambra O. G. A., $2.15; State Seal (Sweets), $2.05.

NAVELS.

National, C. C. U., Riverside, $2.40; Capitol, $2.05; Carnation, $2.00.
Red Letter (Bloods), C. C. U., Glendale, $1.95.
Mission Bells, C. C.U., Chapman, $1.95.
Atlas, C. C. U., Redlands, $1.95; Thoroughbred, $2.20; Tiger Head, $1.90; Clover, $2.00, $2.05.
Coyote, O. K. Ex., Ontario, $1.95; Owl, $2.05.
Volunteer, S. A. Ex., No. Pomona, $2.15.
Palm Tree, A. H. Ex., Prenda, $1.65.
Squirrel, A. H. Ex., Arlington, $1.80.
Independent, Corson, Highland, $2.20, $1.95.
Mtn. Chief Imp., C. C. U., $2.00.
Independent (Sweets), Corson, $1.90, $2.05; Independent (Bloods), $2.15.

BOSTON, Mass., April 29th, 1904.

NAVELS.

Pointer, A. C. G. Ex., Azusa, $1.70.
Carrier, S. B. Ex., Highland, $1.95.
Red "C," Cov. Ex., Covina, $2.00.
Selects, S. A. Ex., No. Pomona, $2.00; Indian Hill, $2.45; Volunteer, $2.15.
Young America, Pinkham & McKeavitt, $1.05.
Monogram, C. C. U., Redlands, $2.05; Rose, $2.40.
Clover, $2.20, $2.15; Rose, $2.40.
Minnehaha, C. C. U., Rialto, $2.20.
Sapphire, C. C. U., Covina, $1.60.
Lomita, H. C. Goodell, $2.20.
Eldorado, W. C. Wooldridge, $2.25.

PHILADELPHIA, Pa., May 2nd, 1904.

NAVELS.

Stag, A. C. G., Azusa, $2.70; Pointer, $1.65, $1.70, $1.85; Stag, T. I., $2.25; $2.35.
Echo, S. T. Ex., Pasadena, $1.95; Arroyo, $1.90.
Swan, S. B. Ex., Redlands, $2.10; Ben Hur, $1.95.
Red Mtn., Riv., Riverside, $2.15; Pepper, $1.95; Blue Globe, $2.10; Red Globe, $2.00; Golden Rule, $1.90.
Violet, D. M. Ex., Duarte, $1.95.
Cloister, Rubidoux Ft. Co., $2.20; Golden Harvest, $2.15; Elephant, $1.95.
Camellia, C. C. U., Redlands, $2.00; Blossob, $1.85.
Perfection, Allesandra, $2.10, $2.15; Golden Rod, $1.90, $2.00.
Capitol, C. C. U., Riverside, $2.15.
Amethyst, C. C. U., Covina, $1.65.
Rose, C. C. U., Redlands, $2.30; Clover, $2.00, $1.85; Chief, $2.05; Tiger Head, $1.95, $1.85.
Coyote, O. K. Ex., Upland, $2.30; Owl, $2.05.
Holly, Cov. Ex., Covina, $1.80.
Parrot, S. A. Ex., Pomona, $1.60; Jewel, $1.85, $1.80.
Alhambra, Alhambra O. G. A., $1.95.
Golden Pheasant, N. Bailey & Son, $1.95.
Mtn. Chief, C. C. U., $1.90.

BOSTON, Mass., May 2nd, 1904.

NAVELS.

La Mesa, Riv., Riverside, $2.30.
Uncle Sam, Riv., Pachappa, $2.35; Fiesta, $2.15.
Pointer, A. C. G. Ex., Lateen, $1.95, $1.90.
Pine Cone, S. B. Ex., Highland, $2.50; Carrier, $2.05.
Tally Ho, S. B. Ex., Rialto, $2.00.
Foothills, S. A. Ex., No. Pomona, $2.15; Selects, $2.10.
Swan, S. B. Ex., Redlands, $2.25.
Monogram, C. C. U., Redlands, $2.05; Thoroughbred, $2.35; $2.20; Bronco, $2.50; Herald, $2.30.
Cream, C. C. U., Rialto, $2.55 Minnehaha, $2.25.
Capitol, C. C. U., Riverside, $2.30.
Marigold, Riverside Ft. Co., $2.50; Plain End, $2.30.

ST. MICHEALS.

Vista Bonita, ½, W. F. Whittier, $1.10.
Alhambra, Alhambra O. G. A., $1.00.

NEW YORK CITY, May 2nd, 1904.

NAVELS.

Old Mission, Chapmans', $2.35, $1.90; Golden Eagle, $1.85.
Three Fates, A. L. King, $2.05, $2.10.
Pinkham & McKeavitt, $1.85.
Blue Globe, Riv., Riverside, $2.25; Blue Print, $1.65; Red Print, $1.50; La Mesa, $2.20; Golden Rule, $2.10.
Uncle Sam, Riv., Pachappa, $2.00; Fiesta, $1.85; Blue Print, $1.90.
Our Pride, Riv., Highgrove, $2.15; Eagle, $2.10.
Pointer, A. C. G. Ex., Azusa, $1.60; Red Shield, $1.80.
Stork, S. A. Ex., Claremont, $2.25.
Iris, D. M. Ex., Duarte, $2.30; Violet, $2.05.
Tiger, S. B. Ex., Colton, $2.30.
Parrot, S. A. Ex., Pomona, $2.00.
Selects, S. A. Ex., No. Pomona, $1.70; Morning Glory, $1.25.
Selects, S. A. Ex., San Dimas, $1.95.
Cal. Beauty, Worthley, Strong, $2.05; Blue Star, $2.05.
Cloister, Rubidoux, $2.25, $2.30.
I. X. L., Benchley Ft. Co., $1.70.
Iris, D. M. Ex., Duarte, $2.25.
Clover, C. C. U., Redlands, $2.00; Golden West, $2.05; Clover, $1.95; Camellia, $1.90; Monogram, $1.80.
National, C. C. U., Highgrove, $2.35; Capitol, $2.25.
Highland, C. C. U. W. Highland, $2.15.
Yosemite, C. C. U., Highland, $2.05.
Amethyst, C. C. U., Covina, $1.45.
Rialto, C. C. U., Rialto,, $2.30; Gondolier, $1.90.
Anemene, C. C. U., No. Pomona, $1.90.
Sapphire, C. C. U., Covina, $1.35.
Butterfly, Cov. Ex., Covina, $1.95; Holly, $1.75.
Puritan, S. B. Ex., Rialto, $1.80; Tally Ho, $1.65.

BLOODS.

Pride of Riv., Riverside, $2.20; Red Print, $1.90.
Puritan, S. B. Ex., Rialto, $1.85.
Squirrel, A. H. Ex., Prenda, $2.20.

SWEETS.

Blue Seal, A. C. G., Azusa, $2.10; Red Shield, $1.95.
Golden Orange (Navels), A. H. Ex., Prenda, $2.80, $3.00; Mocker (order car), $1.75.

LEMONS.

Corona Beauty, Riv., Riverside, $2.70; Grove, $1.20.

NEW YORK, May 2nd, 1904.

NAVELS.

Squirrel, A. H. Ex., Prenda, $1.80.
La Mesa, Riv., Riverside, $2.25; Blue Globe, $2.25; Pepper, $2.25.
Blue Print, Riv., Pachappa, $1.90; Red Print, $1.75.
Select, S. A. Ex., San Dimas, $1.85.
Butterfly, Cov. Ex., Covina, $2.20; Holly, $1.75, $1.80; Holly T. I., $1.95.
Pointer, A. C. G., Lateen, $1.50; Pointer T. I., $1.55.
Echo, S. T. Ex., Pasadena, $1.90; Arroyo, $2.00.
Coyote, O. K. Ex., Etiwanda, $2.05; Owl, $1.90.
Pointer, A. C. G. Ex., Azusa, $1.55.
Pointer (red), A. C. G. Ex., Charter Oak, $2.00.
Ocean, Moffatt Bros., $2.50; Fountain, $2.15; Santa Fe, $2.00.
Golden Harvest, Rubidoux Ft. Co., $2.25.
Golden West, C. C. U., Redlands, $2.05; Atlas, $2.00, $1.95; Clover, $1.75, $1.90; Redland Beauties, $2.55; Bronco, $1.70; Herald, $1.80; Thoroughbred, $1.95, $1.80.
Carnation, C. C. U., C. B. Sta., $2.10; Columbia, $1.90.
Capitol, C. C. U., Highgrove, $1.95.
Fox, C. C. U., E. Duarte, $2.00; Liberty Bell, $1.85.
Yosemite, C. C. U., Highland, $2.20; Geranium, $2.05.
Anemone, C. C. U., No. Pomona, $1.80; Lilac, $1.55.
Leader, Q. C. Ex., Corona, $1.50.
Mtn. Chief, C. C. U., $1.90.
Albion, Thos. Strain, $1.75; Caledonia, $1.80.
Golden Eagle, Chapmans,' $2.10; Old Mission, $1.90.

RUBY BLOODS.

National, C. C. U., Highgrove, $2.20; Capitol, $2.05.

TANGERINES.

Blue Globe, Riv., Riverside, $2.70.
Echo (Grape), S. T. Ex., Pasadena, $1.85.

NAVELS.

BOSTON, Mass., May 3rd, 1904.

Quail, O. K. Ex., Upland, $2.30; Owl, $2.15.
La Mesa, Riv., Riverside, $2.45, $2.45, $2.60; Golden Rule, $2.15.
Lincoln, C. B. Station, $2.40; Navejo, $2.15.
Violet, D. M. Ex., Duarte, $2.20; Iris (Grape), $3.00; Violet (Grape), $2.15.
Our Favorite, C. C. U., Highgrove, $2.25.
Sunflower, C. C. U., Redlands, $2.15; Bronco, $2.05, $2.15, $2.35; Herald, $1.95; Thoroughbred, $2.30, $2.35; Monogram, $2.10, $2.20; Rose, $2.50; Clover, $2.05, $2.10; Atlas, $2.05.
Anemone, C. C. U., No. Pomona, $1.70.
Yosemite, C. C. U., Highland, $2.30.
Excelsior, C. C. U., Highgrove, $2.10.

BLOODS.

(Malta)

La Mesa, Riv., Riverside, $2.10; Golden Rule, $2.00.

(Ruby)

Capitol, C. C. U., Highgrove, $2.15.
Golden Rule, Riv., Riverside, $2.00.

SAN FRANCISCO, Cal., May 3rd, 1904.

NAVELS.

Stork, S. A. Ex., Claremont, .95; Select, .85; Flower, .85.
Squirrel, A. H. Ex., Arlington, .80, .75.
Pet, S. A. Ex., San Dimas, $1.40; Cluster, .80.
Selects, S. A. Ex., No. Pomona, .85; Morning Glory, .80.
Anemone, C. C. U., No. Pomona, $1.10; Lighthouse, .80.
Parrot, S. A. Ex., Pomona, $1.35; Jewel, .90; Carlo, .90.
Golden Orange, A. H. Ex., Prenda, $1.10; Squirrel, .80.
Orange Bowl, S. T. Ex., Fullerton, .85.
Golden, Riv., Riverside, .75.

Total to date this season, 19,102 cars, of which 1255 cars are lemons.

Total to same date last season, 14,798 cars, of which 1361 were lemons.

POULTRY THE YEAR ROUND.

The poultry business is an all the year occupation and not confined to one period only. To look for a profit in the winter and spring and allow the really best seasons of the year, summer and fall, to be overlooked, is to expect a profit at the time when it is more difficult to manage and greater expense is incurred. The reason that the winter is regarded as the best season is because prices are then higher, but the cost is also more, and fewer eggs are secured. The summer is the best time with hens, but the majority of farmers are disposed to disregard the facts which are presented and fail to take advantage of the season. It is true that as the fall approaches the hens begin to moult and cease to lay, but in so doing they are preparing for their winter work, getting ready, as we may say, and there is, consequently, no time lost in that direction. The hens that do not lay and do not begin to moult are the most unprofitable, the cause being due to their being overfat or afflicted with lice. There is no remedy but to remove the cause, whatever it may be, and all the condition powders or egg foods ever introduced will not be of avail. If the hens are too fat the food must be shut off. If lice is the cause, the vermin must be cleared out. It is natural for the hens to lay and when they do not produce eggs in the summer or fall the cause should be investigated. When eggs cease to come in the farmer sells his mouting hens, which is just where he makes his greatest mistake. The ones to dispose of are those that are fat and in high condition.

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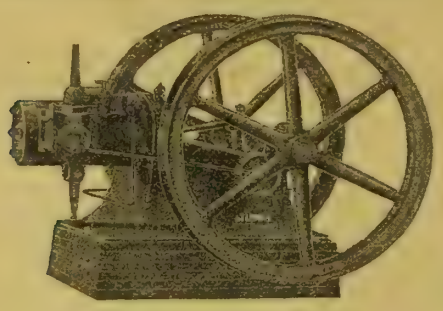

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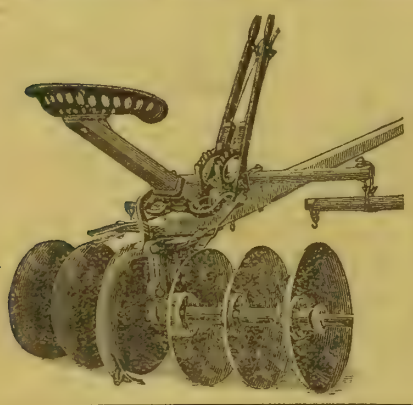

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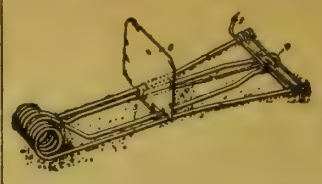

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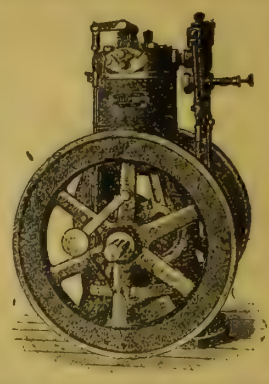

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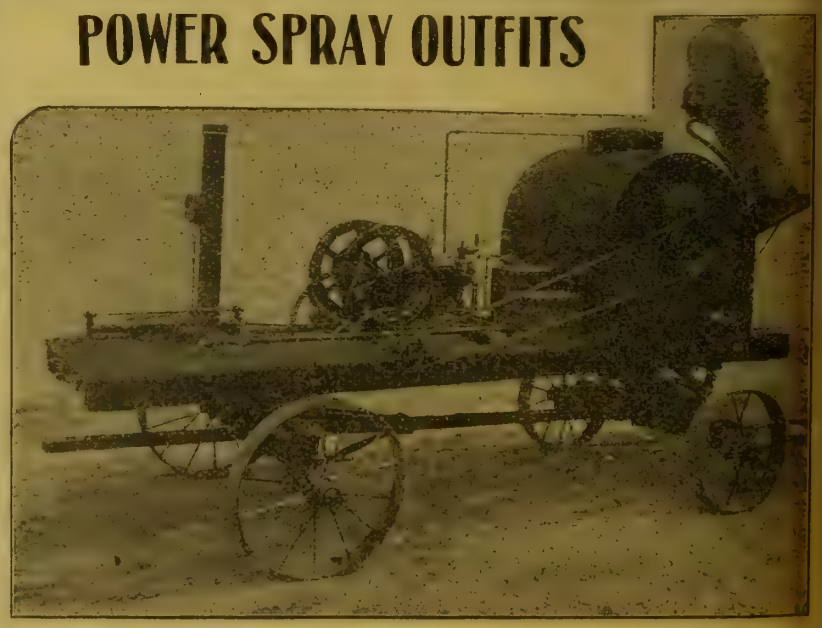

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California Cultivator

LOS ANGELES SAN FRANCISCO

MAY 13, 1904

IN THIS ISSUE: The Silver Lining; A Local Flora; Alfalfa Seed; The Cow; Fattening Poultry; Andalusians; Profit in Celery.

Threshing in California.

CIROULATION EXOEEDING 10,400

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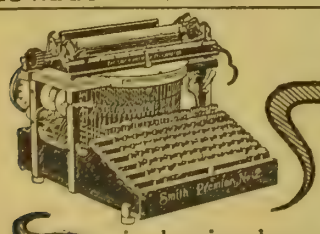

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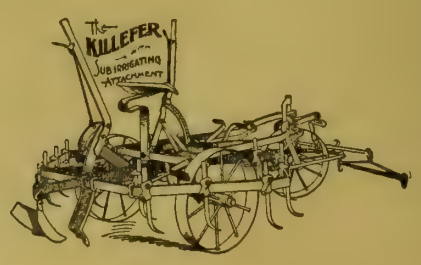

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 20 LOS ANGELES, CAL., FRIDAY, MAY 13, 1904 Subscription $1 a Year

THE SILVER LINING . . .

The Diversification of Products Which May Help to Equalize the Depression Which May Come From Specializing in any Variety of Fruit Produced.

By a Staff Contributor.

In the general depression that has come over the citrus fruit industry the present season this portion of the State will be brought to a realization of the immense importance of this industry from a commercial standpoint. The causes leading to this depression have been discussed in the Cultivator from time to time, but opportunity has not offered for presenting a brighter view of the agricultural conditions of Southern California in a general review, nor regarding the future of the orange business. A commonwealth cannot prosper more than can a nation unless it produces more than it consumes. It is true, a large portion of the activities of Southern California are employed in satisfying the home demand that cannot be supplied from the other sections of the country as economically as it can be from home, on account of distance and heavy freight charges, thus engaging a large contingency in profitable industry without particular influence in the uplifting of the State. But the activities of the farming communities are most largely given to the production of exports, such as citrus fruits, nuts, olives, berries, beans, grain, potatoes, celery, beet sugar, honey, canned goods, deciduous fruits and by-products of the various farm and orchard crops that may be manufactured here. In this category of export products we do not place live stock, hay, dairy products, poultry, or the manufactured articles which may soon become of great importance, but as yet figure principally in supplying the home demand.

* * *

From the above list of articles that have long since outrun the local demand, it will be seen that Southern California has an immense reserve force outside the productions of the citrus fruit orchards. Without minimizing the effect of continued depression in the citrus fruit industry, the resources of this portion of the State are so great and of such a distinctive character that the general progress of this section is certain, in addition to which the desire of new people to live in this justly celebrated climate of Southern California may be considered a permanent asset of the land owner aside from the value of the land, as well as a benefit to the tradesman and artisans who share the profits following all new investments. It may be expected, also, that this section will continue to share in the development of the foreign trade of the Pacific, directly through the improvement of harbor facilities and proximity to the great isthmian canal, and indirectly by supplying the coast with commodities, made active through the increased prosperity of the northwest. While the increased railroad facilities promised in the new line from Imperial to Mexican tide water, and the completion of the Salt Lake route from Los Angeles eastward may not materially cheapen freights on fruits, they should open up new territory to be supplied from the orchards and farms of Southern California. With increased facilities for exportation and the general widening of the commercial avenues, the agricultural resources of this section of the State should find more extensive encouragement and the increasing advantages prove more stimulating to all classes of industries.

* * *

If it be true, as some are contending, that the production of citrus fruits has been overdone, the abandonment of orchards in poor fruit-growing localities, and the abandonment of orange-growing as a fad will soon reduce the overplus. There is a tendency to change the methods of culture, also, that will inevitably sacrifice the quantity for the improvement of the quality of citrus fruits. With the influences now beginning to work toward the lessening of the citrus fruit crops we may have seen the end of overproduction and the prospect of the immediate restoration of the orange industry to a profitable basis. If this is consummated, then we have no revenue deficit to anticipate and may consider the further development of diversified farming, that shall not only increase our exporting powers but supply more closely the home demand and prevent the outgoing of cash for commodities not heretofore sufficiently produced, such as meats, poultry and eggs. If one will cast his eye over the list of commodities that more diversified farming has added to our resources he will see that this portion of the State is rapidly becoming more independent of special crops and hence more stable from an agricultural standpoint.

* * *

The prospects, so far, are good for a large walnut output. Reports indicate that the blight has not appeared this season in alarming degree in a single walnut growing section. If the only enemy of the walnut industry holds off this great revenue producer will become greater, as the only question is the production of the nuts, profitable markets being assured for all the walnuts that can be produced. Only within the last two or three years has the olive become a good revenue producer. Success seems to be gradually evolving from one of the most discouraging of our orchard products. Olive oil and prepared fruit have now rank among our staples, giving us another avenue of profit from without the boundaries of the State. Celery growing, for a year or so problematic as to profits, is another industry that has become a money-making success, bringing in from distant and inexhaustible markets hundreds of thousands of dollars to the credit of our net income. Among the new industries whose products find an outside market is sugar-beet growing. An immense surplus of home-made sugar adds to the development of California, besides bringing into exercise a large quantity of eastern capital in the equipment and management of the manufacturing plants required to turn out the finished product. Of no small proportions are the revenues derived from canned fruits, dried fruits, preserved fruits, cantaloupes, melons and winter vegetables, all adding largely to the outside returns that go toward the up-building of the country by drawing from the consumers in other places. The exportation of potatoes may assume increased importance, and yet another immense and distinctive source of revenue is the bean industry, which is rapidly spreading from its seat in Ventura and Santa Barbara counties to Los Angeles and Orange, adding tens of thousands of acres, whose broad area every season brings in a revenue from distant States, profitable and permanent in a high degree.

In this resume, while the enumeration is attempted of only a portion of our commodities supplying a surplus over the home demand, we must not forget the exportation of honey, which assumes importance in favorable seasons. Nor is the vastly more lucrative business of wine making to be forgotten. Since the decadence of the vine malady, Southern California has shown a remarkable increase of vintage products until there are now ten acres of wine grapes growing where there were formerly one.

* * *

Perhaps the most distinctive of all our outgoing products are the articles prepared from fruits, dried, preserved, canned and processed in various ways. Lemon juices, citron peel, orange syrups and juices, marmalades, jellies, fig preparations, one of which is found on every buffet car on the continent,

(Continued on Page 263.)

Some of California's Resources. Courtesy Sunset

BY J. W. MILLS, ONTARIO, CAL.

ALFALFA SEED.

Farmers' bulletin No. 194 states that since the increased use of alfalfa over the United States, there has been some adulteration of alfalfa seed. Thirty lots of seed that were imported into the United States as alfalfa seed were examined and it was found that they ranged from less than one per cent to 72 per cent adulterated. Some of it only averaged 6 per cent of seed that would grow. Some of the seed was full of dodder, or "love vine," which will kill out alfalfa in two years. As high as 5000 dodder seeds were found in a pound of alfalfa seed.

All sorts of clover seeds were found in it and anything that resembled alfalfa seed was used. Burr clover is used as an adulterant and is sold as Chilean Lucerne. It is secured at the German woolen factories and is taken from the combings of the wool. Dodder, or "love vine," seed resembles alfalfa seed slightly, being small and a little lighter in color. It may be sifted out with a seive with the proper-sized mesh.

Dead alfalfa seed is common and may be distinguished by the brown color, and seed that is not a live olive green will not grow.

Dodder is one of the worst enemies of alfalfa and cannot be killed by close mowing, as the vine clings close to the base of the stalks. Wherever a plant of it is found growing on alfalfa, the stalks should be mowed as close as possible to the ground and the stump of the alfalfa plants covered up with dirt so that none of them will stick out. Dodder rots at once if buried and the alfalfa will come up through two inches of soil and not be injured in the least. We have tried this method on the Chino ranch and where the stalks were badly infected with the vine and completely coverd with earth, the dodder was killed effectually, but where an alfalfa stalk stuck up above the surface with a little dodder on it, the vine continued to grow.

MULCHING STRAWBERRIES.

An old and successful strawberry grower at Haywards advocates the mulching of strawberry vines at this time of year as a prevention of loss of moisture in the ground and for other advantages which he has found by experience to the crop in California. In the course of a long article on the subject he says:

The strawberry bed that is not now under a coat of straw should be covered at once. Stable manure, with a liberal mixture of bedding, makes the very best mulch. The fertility is washed down to the roots of the plants by the spring rains, while the strawy portion remains on top to protect the fruit. Do not use mulch that contains seed, or you will ruin your patch. Spread the mulch evenly all over the bed to the depth of two or three inches. Mulching serves a tenfold purpose.

It conserves the moisture in the soil during the fruiting season.

It keeps down the growth of weeds until after the crop is harvested.

It prevents the packing of the soil by the feet of the pickers.

It gives rich color and gloss to the berries instead of the dull, dingy fruit. always found on unmulched patches.

It leaves the patch in the best condition for renewal after the fruit is harvested.—The Modern Farmer and Busy Bee.

MONEY IN CELERY.

Recently an orange grower, who is also a celery grower, told in an interview in the Express, how his orange orchard has not paid him very well this season, but his celery field has.

"It is rather singular that we realized better prices this season for an inferior quality of celery, particularly when the cold weather east is said to have ruined the market for California oranges. The celery went out of California on the same trains with the oranges and contended with the same conditions east. The former was much more perishable than the oranges, yet we got good prices for our celery, and, strange to say, the eastern dealers who bought it made good profits on what they handled this season, and were greatly disappointed that we were unable to furnish more of the product. They paid us better prices this season than we ever realized before, notwithstanding our celery was of inferior quality and very late in arriving.

"California does not have a monopoly of the eastern market by any means. As everyone knows, large quantities of celery are grown in various sections of the east and are marketed during November and December. Michigan is famous for its yield, but our California celery goes east and competes with the Michigan crop, and we have no difficulty in getting good prices for it. Florida also grows celery for shipment to northern markets, and this year we had to compete with that supply, as much of our celery was late and could not be shipped until February and March.

"If the lack of rains had not interfered with the maturing of our celery, we would have obtained still better prices this season than we did. As it is, we have no cause to complain, as my celery netted me more than $100 an acre, cut and delivered at the packing-house, and several of my neighbors realized $150 and even $200 an acre for their crops. They did not consign a pound of it, but followed strictly f. o. b. method.

"It is estimated the 2500 acres of celery this season netted the growers, picked and hauled to the railroad station, more than $300,000, or in excess of $100 an acre.

W. S. Kendall and Merritt C. Pike, fruit growers of Sacramento brought suit against the Porter Bros. Company and the Anglo-California Bank of San Francisco for an accounting, in the sale of fruits and failure to make proper returns of sales.

A smooth millstone grinds no grist and smooth gravel will not grind grain in the gizzard of a fowl. Furnish your birds gritty grit and plenty of it.

BARLEY AS HORSE FEED.

The barley grown on the Pacific coast is extensively used in the feeding of horses, and its use for this purpose is old in other countries. Elsewhere barley is not extensively used as a feed in the United States, doubtless owing to the fact that it is in such demand for brewing purposes that it is usually high in price. Wherever it is grown, however, it is frequently possible to secure at low cost grain which is off color, owing to rain or fog during harvest, and which, for this or some other reason, is unfit for brewing, but valuable as feed. Barley may be fed whole to horses having good teeth and not required to do severe work. Since ground, like wheat, forms a pasty mass when mixed with saliva, it is regarded as more satisfactory to crush than to grind it, if for any reason it is considered undesirable to feed the grain whole. At the North Dakota station J. H. Shepherd has recently studied the value of barley as a feed for work horses and mules. For some months this grain was fed with timothy hay to three horses and two mules. The mules did not eat the barley with marked relish at any time, but for two months during which time they were performing light work, they ate enough to keep them in condition. The work was then increased but they would not eat a correspondingly greater quantity of barley, and soon began to refuse it altogether for a day or so at a time. The mules were then given oats on alternate months. This grain was eaten with relish, and gains in weight were made. Although the trial lasted nine months, the mules persistently refused barley. Of the horses mentioned above, two were work horses. They were fed alternately barley and oats, with timothy hay for nine periods of twenty-eight days each. They ate the barley without regard to the amount of work required of them. On the oat ration there was an average daily gain per horse of .15 per pound. In both cases the horses averaged 5.50 hours' work per day. This trial indicates that horses, when taxed to the limit at hard work, can not be supported upon barley quite so well as upon oats, and that it is worth slightly less per pound than oats with stock which is given a medium amount of work. It indicates further, that mules take less kindly to barley than do horses, and that horses which are inclined to be "dainty" will not eat barley so readily as oats.—United States Department of Agriculture.

PROGRESS OF IRRIGATION.

At the time of the passage of the irrigation law, says the Santa Paula Chronicle, we had an irrigated area in the arid region of the United States of approximately 8,000,000 acres, a larger area than that artificially watered in any other country except British India; and while no lands have as yet been watered and in all probability no considerable acreage will be for the next two years under national projects, yet irrigation reclamation by private enterprise has not yet been retarded by the passage of the act, but on the other hand, as was anticipated, seems to have received an impetus therefrom. The census bureau estimates that approximately 9,200,000 acres were under irrigation in July of last year.

A railroad from Santa Cruz to San Francisco is among the latest possibilities for that section.

The Portland Oregonian in a recent article stated that there are 3,000,000 acres of land in the eastern part of that State which are useless now, but, if irrigated, would be highly profitable. A sure supply of water would insure on Oregon's arid lands an annual grain crop of 100,000,000 bushels, in addition to horticultural and dairy products. The convention resolved to ask the government, through the interior department, to begin at once on reclamation projects in the State, Oregon already having a share of $900,000 in the irrigation fund accumulated from the sale of public lands. The co-operation of all commercial bodies in the State was asked and the Oregon irrigation congress was organized, with annual dues of $1 from each member. A government engineer who spoke at the convention said that in order to obtain benefit from the new act a State must settle all disputes about water and land titles, because the government will not undertake to do this. "The government," he declared, "will not enter where it meets the least resistance. The greatest good to the greatest number is the intent of the law and the intent of the interior department," a statement that was received with applause. Organization for irrigation work is going on, in all the States and Territories interested.

As to the Potato.—The present retail price of potatoes, "Oregon" and "Early Rose," suggests to the consumer who buys, that there was a shortage in the last crop, or that the appetite for the "spud" has greatly increased. The potato as a staple commodity is as "good as old wheat," and though more perishable, is more profitable in the money yield per acre. It would seem to the average consumer that the potato has not received the meed of attention, save in certain sections where it is made a specialty, that it should. The potato is entitled to greater acreage, to nicer discrimination in the selection of seed and planting, to more pains in the preparation of the ground and to more careful system of cultivation and weeding than is generally given. Potato culture requires intelligent endeavor, hard work and lots of it, but it pays.

Personally Conducted

Excursions and tours are features of modern railway travel which have become very popular with the long distance travelers. Experienced conductors employed by the railway companies accompany the cars from starting point to destination to look after the wants and comfort of passengers, give information, etc.

TOURIST SLEEPERS

Between California and the East are run on this plan on certain days and afford the economical traveler advantages obtainable no other way. Santa Fe tourist sleepers are run every day but on three days each week are personally conducted.

If you are interested, any Santa Fe agent will be pleased to hand you a booklet describing a trip "To the East in a Tourist Sleeper," which contains full particulars. Don't forget the way to go is

Via Santa Fe

General Agriculture

THE BEEF TRUST.

The stockmen and the people generally are under the control of one of the most gigantic trusts the country has ever been cursed with. That trust is the packers' combine. It consists of seven concerns with agencies everywhere located, in this country and in Europe. This combine fixes absolutely the price of beef cattle on the hoof and the price of beef in the retail market. Its profits in the last two years have only been excelled by the steel trust. Sometime since an injunction was secured against the combine but it has made no difference in its working.

A resolution was introduced in Congress before adjournment calling for an investigation as to whether the "beef trust" is violating the injunction.

The resolution was introduced in the house February 4, by Representative Martin, of South Dakota. Before adjournment of Congress an extended hearing was given to Mr. Martin by the committee. He made the assertion that the "beef trust" was violating the spirit of the injunction if not the letter. The resolution was amended so as to provide that the report of the investigation should go to the President, as provided in the law creating the new department, instead of to Congress. This amendment was opposed by Representative Richardson of Alabama, of the committee, who held that the report should be made to the house, inasmuch as the house requested the investigation to be made. It was deemed advisable by the majority of the committee, however, to abide by the law and after the investigation has been made to pass another resolution requesting the President to submit the finding to the house. Should the investigation show violations of the injunction the finding undoubtedly will be referred by the President to the department of justice, and the 'trust" proceeded against for contempt of court.

To illustrate how he believed the injunction against the "beef trust" was being evaded by that combination, which he stated, consisted of seven concerns, Mr. Martin said he was told by a stockman that he had just sold a trainload of fat steers in Chicago. When he arrived in that city he sought bids for his stock. He went to the various concerns, but could secure a bid from only one. He finally accepted the bid. His curiosity had been aroused and he resolved to see what the reason was for this condition. That night the steers were separated into seven equal lots and sent to the seven different concerns. Explaining further, Mr. Martin said that before the injunction was issued it was the custom of these firms to agree the night before on the price they would bid the next day for beef on the hoof.

To illustrate the profit that he asserted was being made by the "beef trust," Mr. Martin said that, on February 1, 1902, the price of "good to extra steers" was $6.50 per hundredweight, the price of "good to extra beef sides" was $8.37½; on August 1, 1902, the price of beef sides was the same as on February 1, but the price of live stock had dropped to $5.17 per hundred-weight. During the month of August, 293,000 steers were sold on the Chicago market, making according to Mr. Martin, an additional profit to the "trust" for the month of $3,882,263, or $144,317 for each of the twenty-six business days of that month. This sum, he declared, would permit of the payment of $5000 per day fine by the seven companies for violation of the injunction and leave a handsome profit resulting from the control of the price of beef.

It is earnestly hoped Congress will not "sleep" on the rights of the cattlemen of this country, who are simply at the mercy of the iniquitous combine, as the editor of this paper knows by personal experience during the past two years.

Stockmen in the United States will find that to insure their business they must be as well organized as the packers. They must organize, build their own packing plants, yard their own cattle at reasonable cost, and distribute their product by means of their own agents at home and abroad.

THE VALUE OF SILO FEED.

Editor Cultivator: During the past dry fall and winter when feed has been higher in price and scarcer in quantity than for a number of years past, the feed question has become a serious matter for all dairymen, and while I have watched my fellow dairymen I have learned many valuable lessons. I think I have something that may be of interest to some one. First, I will say, as all who know me will testify, I am an enthusiast on silage, and during the past summer and fall I put up about 400 tons of corn ensilage and have been making good use of it during these dry months.

During the month of march, 1901, I put in my silo 120 tons of barley ensilage; later in the fall I refilled or rather finished filling my silo with corn, for by fall we had used some of the barley ensilage, and it had settled down beyond my calculations and after using corn ensilage off we would use some of the barley ensilage, and at each succeeding year we find the barley ensilage better than at any previous year, hence you will see we had this barley ensilage on hand for three years, and at the end of three years we find it better feed than at any previous time—thereby fully demonstrating the claim that ensilage is like wine, i. e., better by its age, and also demonstrating the fact that ensilage can be made of such feeds as can be used for no other purpose, and can be kept indefinitely, thereby enabling the dairyman to have a cheap feed when feed is high. The question of storage room may be raised, and for that reason I want to state that I have three silos, made of 2x6x20 redwood staves, hooped in the ordinary way, 20 feet in diameter, and cost when complete $105, and hold 125 to 150 tons, according to feed you may use for filling.—J. L. Starr.

The direct result of advertising in the Cultivator is exemplified in the case of Sessions & Co., whose herd of Poland China hogs is just about cleaned up. Of the original large herd but a few remain, and those that are not sold will doubtless soon be.

HOMOGENIZED MILK.

To the many methods of purifying, modifying and preserving milk must now be added a process for homogenizing it so that it will keep almost indefinitely without change in its physical condition, says E. W. Allen, in Scientific American. The tendency of the fat globules to separate from a condition of suspension or emulsion, as they occur in freshly drawn milk, and to collect at the surface in a layer of cream, causes milk to lose its homogeneity very quickly; and while this creaming tendency is highly advantageous in butter making, it is objectionable for many purposes to which milk is put. The fat globules in milk vary greatly in size. Not only are those of some breeds and individuals of a large average size, but in the same sample of milk there are always a considerable number of very minute globules and others that by comparison are quite large. The larger globules rise to the surface more rapidly, and have a greater tendency to coalesce. The very smallest globules never rise, but remain in a state of suspension.

This inactivity of the smaller globules has suggested a mechanical means of rendering milk non-creaming and thus preserving its homogeneity. Such a process has been perfected and patented by Gaulin of Paris, and is coming into use in Europe. It is designed to reduce all the fat globules to a very minute size, by means of pressure and concussion. Milk heated to about 185 deg. F. is placed in a closed drum, and under pressure of 250 atmospheres is forced through a series of very fine openings, the jets as they issue coming in contact with a porcelain plate which is held in place by a stiff spring. The effect is similar to that produced when mercury is poured on the floor. The fat globules are broken up by the concussion into very minute particles, which do not tend to coalesce or rise to the surface. Under the microscope the globules appear as almost immeasurably fine granules, distributed uniformly through the milk, and are evidently more intimately associated with the casein. While the globules in ordinary milk range, on an average, from 0.0016 to 0.01 millimeter in diameter, those of the treated milk average only about 0.0008 millimeter in size. Samples of the treated milk have been kept for six months without change in the character or uniform distribution of the fat globules. Furthermore, treatment of the milk in a powerful centrifugal machine which creamed ordinary milk completely, had practically no effect on the "fixed" milk, showing how thorough had been the change in the mechanical condition of the fat.

An investigation wes recently reported in the British Medical Journal of the process as carried out by a dairy company in London. In this case the "fixing" was combined with pasteurization, and the milk was aerated with a mixture of oxygen and carbonic acid under a pressure as it was bottled. The only apparent change in the milk was in the fat globules, the other constituents, including the proteids, being found to be unchanged, and there was no decrease in digestibility as shown by experiments in artificial digestion. The treated milk kept perfectly sweet for over six weeks, and remained sweet for several days after opening. It showed no tendency to cream, but was perfectly homogeneous when the bottles were opened.

The process is thought to be especially applicable in putting up milk to be kept a long time, or partly condensed milk to which no sugar has been added. The cream which rises in a buttery mass in the neck of bottles of pasteurized milk is difficult to diffuse uniformly through the milk when used, and this has been an objection to ordinary pasteurized milk, especially for children's feeding.

The apparatus in most common use treats about 2000 pounds of milk an hour, and requires 7 horse-power for its operation. It is said to be easily cleaned, and the parts coming in contact with the milk are mostly of bronze. To prevent clogging the machine, the milk is filtered before entering the drum, which takes out all the fine particles of dirt.

A convention of all concerned in the improvement of the San Joaquin and Sacramento rivers, in the preservation of their valleys from inundation, and in their growth and prosperity, has been called to meet in San Francisco on May 23rd and 24th. The convention will be composed of delegates from representative organizations and public bodies interested in the subject.

The bill introduced in Congress, this session, by Congressman Bell, and of great import to California, viz.: the bill to throw open to settlement under the homestead law a tract of land covering 63,000 acres in Mendocino county, which fourteen years ago was cut out of the Round Valley Indian reservation, also providing for securing to the settlers now occupying the land their prior rights and was acceptable to them, as also to the Indians, was killed in the house by the objection of Representative Livernash, who, at the moment it was to be taken from the calender and passed by the house, objected. This left Bell no recourse but to allow his opportunity to pass. Had the bill been allowed to come to a vote it would have passed the house and with almost equal certainty would have got through the senate this session. At least that is the general belief among members of congress.

BETTER PROSPECTS FOR RAISIN GROWERS.

Raisin growers in California feel some encouraged at the prospects in view, of unloading their 2,600 car loads of over supply of raisins from last year's crop. The growers and packers have just closed a meeting at San Francisco at which it is believed, some understanding was reached as to the disposition of the hold over crop. In a few days the actual facts will come out, but those interested in this industry have reason to think an arrangement has been made whereby the tied up crop of last year may be turned into money.

MECCA IS ALSO A PEBBLE.

Editor Cultivator: In the horticultural column of your issue of the 22nd the Cultivator makes mention of the fact that the Brauckman Bros. raised a stool of barley having 762 straws. What we object to is that Coachella is given as the place where it was grown. It should have been Mecca. We should like to see Mecca given the credit for raising this plant. Coachella is not the only pebble on the beach.—Brauckman Bros.

Sure. The Cultivator wants to do Mecca justice and we have heard it said that this place proposes to be true to name—a genuine Mecca.

Conducted by PROF. A. J. COOK, Claremont, Cal

BAILEY'S BOOKS.

I have often called attention in the Cultivator to the value that comes to the orchardist from frequent visits to other fruit growers, especially to those that are at the top in the business. I think all the most successful do just this thing and feel that they can hardly overdo it.

There is another thing that is even more beneficial. I refer to the reading of good books that treat of the principles that underlie the business. I am led to this remark from a careful reading of Prof. Bailey's most valuable and interesting book "The Survival of the Unlike." Like all his books it is full of suggestions that must be most helpful to the grower of fruit and vegetables. I remember when we first started our Claremont Pomological Book Club, Mr. Frank L. Palmer said that the reading of one book, Bailey's "Principles of Fruit Growing," paid for the whole expense. The same might be said of "The Horticulturist's Rule Book," and indeed of all the others. Prof. Bailey is one of the hardest workers that I ever knew. I doubt if there is a man in the world that has a broader knowledge of horticulture than has he. I say this in the hopes that I may induce many of our readers to secure and read these valuable treatises. Their cost, $1 each, will not deter any one from the purchase. They are published by the MacMillan Co., New York.

In one of the chapters of the book that I have just read, Prof. Bailey gives an account of two tomatoes that have originated in a few years, that are as distinct from all others and from each other as are different well marked species in nature. Not only are the plants very characteristic in form, foliage and general habit of growth, but the fruit is peculiar, and what is most surprising and interesting, the seeds come true. Thus these two varieties—shall we not say species—the Upright and the Mikado seem to prove that species may originate right under our very eyes. Prof. Bailey is a pronounced Neo-LaMarckist, and one has but to read this book and note the facts that he gives to be convinced that environment is sufficient—quite—to account for variation, and he proves that these variations are inherited, and so we have the proof that Weismann is wrong in maintaining that "acquired characteristics are not inherited." I strongly urge our studious growers to read this book and I am sure that they will feel that it is time well spent.

* * *

OUR BIRDS.

Mr. W. Scott Way is doing a splendid service in defending our valuable feathered friends at our club and institute meetings. His address at the Pasadena Institute and the longer one at Cucamonga will do much good. I am pleased to note that he has also spoken at the meeting of the Alhambra and San Gabriel Club. This doctrine of bird protection cannot be too much or too strongly preached. While I do not approve of the sentiment that puts the interests of the birds above those of the orchardists, and while I would not advocate the protection of all birds indiscriminately, I do believe that almost all of our birds are real genuine friends of the fruit grower, and so anything that works for their better protection is to be encouraged. Yet in such cases as the linnet where he exists in great numbers and completely destroys the crop as he does the apricot, or in case of the quail at Carpenteria, where he goes into the vineyard and strips off the grapes almost to the very last, or in case the Louisiana Tanger, the black headed grosbeak, and the Phainopepla come into the cherry orchard and pilfer the cherries to the tune of thousands of dollars of loss as they did in the orchard of Mr. A. P. Harwood one year, then I feel sure that the pomologist has a right—more—it is duty, in the cheapest way possible to destroy the birds. Poison, shotgun, or any way that is effectual, is to be approved, in case it does not injure any one else. If the poisoning would kill bees, which I feel sure it need not do, then I am sure we would have no right to practice this method.

In this connection, would it not be wise to amend our laws, so that in case a fruit grower is suffering, he may legally kill any bird depredator on his own place? He will do it any way, and I do not believe that it is wise to encourage the breaking of the laws. I hope I am not wrong in the opinion that Mr. Cadwell was warranted in shooting the quail in his vineyard, though it was against the law, for it meant bread and butter to him. Is not this a case where "self defense," the first law of nature puts in an appearance? I would like to hear from others in this matter, especially if any think my position wrong. I do believe that the quail should be protected in case it does no harm, for it does so much good in destroying insects and in feeding upon and destroying weed seed. There is no question in my mind that the dove should be better protected than it is at present. I hope Mr. Way or some other will go carefully over our bird laws, and suggest such amendments as the circumstances demand.

* * *

TAKING BIRDS' EGGS.

Apropos to the above, I have an inquiry from Paul Ledig, Ioamosa, as to the best way to preserve bird's eggs, and where he should look for the eggs of the various woodpeckers that frequent our section. The only thing necessary to protect or preserve eggs, is to drill a small hole in them, at the middle of one side, and blow out the contents, when the number tag of the species may be pasted over the hole. There are small drills especially for making the holes, though a needle will answer in case one has not a drill. Blow pipes are also sold to remove the albumin and yolk, though a glass tube, which one can get at any drug store, will serve as well. This should be drawn to a point at one end, and this end for about two inches should be bent at right angles to the remainder of the tube. By putting the pointed end to the hole, it is an easy matter to quickly remove the entire contents. But unless a boy has a perfect genius for such work he ought to be discouraged from such collecting. It means the loss of many birds, and as we have seen, these birds are very valuable and should not be sacrificed. Moreover, such collections are not kept long in most cases, and so the loss is doubly to be regretted. Why not the boy make a good collection of insects? This will give as good training, and has no argument against its practice if well and rightly done. It has, instead, everything to recommend it.

* * *

BOOK ON CALIFORNIA BIRDS AND FLOWERS.

M. A. P., Upland, asks for good books on California flowers and birds. Parson's "California Flowers" will please and "Jepsam Flora" is good. This last is for Northern California, and so, many of our plants are omitted. I think a book is just published at Stanford on the flowers of Los Angeles County. I have not seen it but have sent for it. I hope that it will supplement Jepsam's work in a way to be satisfactory. Coues' book on birds covers all the United States and is excellent, but its cost is rather prohibitive. It sells for $7. Mrs. Bailey's book is very good and far cheaper. This is used at the University as I am informed.

* * *

APHIDS ON MELONS.

Mr. Hugh T. Gordon, Glendora, sends me melon plants that he says are being ruined by a louse "as you will see by the enclosed specimens." He adds that insect powder has no effect and asks if Paris green will be of any benefit. He concludes with the remark that by the way they are working, his five acres will be ruined in five or six days.

I am delighted to get these specimens. They are aphids and every one is parasitized by a braconid fly. This is what I have long hoped, that a braconid fly would some time protect us from these melon lice. The time is come. Mr. Gordon will need to do nothing; these little friends will do it all for him. Paris green will do no good on sucking insects. These plant lice suck and do not eat at all. They kill the plants by sucking the sap from them.

* * *

COMB OR EXTRACTED HONEY, WHICH?

Tenderfoot, Tulare Co., asks whether I would recommend him to work for comb or for extracted honey. Comb honey brings the most money, is nicer to produce, and requires more skill to produce it. One is more certain, however, to secure a good crop of extracted honey and it is much more easy to market it. We have to ship so far, that it is not easy to send the comb honey, and it is likely to break in transit. I would produce enough comb to supply the home market, and the balance would be extracted. This is easily and more cheaply shipped in large tin cans—ten gallon cans—put in jackets of wood for safety. The most of our California bee-keepers produce only extracted honey. If all will combine in one organization, it will be easy to get $.06 per pound and this is a living price.

* * *

LONG BEACH INSTITUTE.

The date is now fixed for the Summer School Institute. It will be the last week of August. Governor Pardee will be with us and speak on Saturday the 27th.

REMEDIES FOR MILK FEVER.

Milk fever is a disease of rich milkers, usually attacking mature cows, and it is a disease common to dairy cattle, the beef breeds, although usually in higher condition than the dairy cattle, not being so subject to it, says the State veterinarian of Pennsylvania. After much study the conclusion was reached that it is due to the activity of the udder and to some poison originating in the udder. After many years of experimenting Dr. Schmidt produced his famous iodide of potash treatment, injecting the solution into the udder. Experiments made by 100 veterinarians show that his treatment resulted in the saving of 82 to 85 per cent of the cases, and the mortality previously being not less than 50 per cent. The veterinarians observed, however, that in treating milk fever with iodide of potash injections the treatment was most successful when some air was injected into the udder, and some fellow being out of the medicine injected air alone, which was successful. This led to the conclusion that the germs in the udder were of the class which cannot survive in oxygen, and that probably the oxygen of the air was the germicide. Therefore why would not pure oxygen be better? Experiments have shown that oxygen is the best treatment yet produced. Oxygen can be secured in small cylinders holding forty gallons compressed which will be sufficient to treat a half dozen cases. The first cost of these cylinders is about $10. After that it costs about $2 to refill them. The Cultivator would recommend the trial of the oxygen treatment. The disease is usually fatal under the old treatment, and if the oxygen prescription is as good as experiments show it to be, it is well worth trying.

THE "BRIGGS" NEW IMPROVED

FRUIT PITTING MACHINE

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It cuts the fruit entirely round and pits it more carefully than can be done by hand.

The work is done with wonderful rapidity, six pits being extracted at each revolution of the wheel, whether the fruit be large free-stone peaches or plums of the largest size. It is capable of handling

Two Tons of Peaches, and One Ton of Apricots Per Hour

Thousands of tons of apricots have been satisfactorily cut and pitted with these machines.

It Does Not Push the Pit Through the Fruit

But holds the pit firm while the fruit is carefully removed without being bruised. The pits are delivered separate from the fruit.

The Advantage of This Machine is Very Apparent

As one machine and one man practically represent fifteen or eighteen cutters. This perfect machine, which is guaranteed, is the result of 12 years of experimenting and improving. These machines will be rented for the fruit season for fifty dollars each; for sale at $150 f. o. b. Los Angeles. Address

The BRIGGS-KNIGHT Mf'g Co.

336 E. Second St., LOS ANGELES, CAL.

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

OPIUM POPPY.

A correspondent wishes to know if opium poppies would prove a profitable crop in California. Certainly not. If the opium could be harvested here for one-tenth or even one twentieth of what it would cost it would still be a losing venture.

* * *

A POPULAR NATIVE.

Collinsia bicolor, a native annual, is now in bloom on shady hillsides. It is of the easiest culture, very free flowering and the seeds are easily gathered. It is a favorite in the gardens in every State in the Union and in every country in the world. Why not get acquainted with it this season and next year grow a bed of it?

* * *

MUSTARD.

E. M. P., Pomona.—You are right. The mustard most common with us, especially in black adobe soils, is the mustard of commerce from which our mustard flour is obtained. This plant is known as Black mustard (Brassica nigra) though the seeds of other species are also used, one only of which is found locally—the white or wild mustard (Brassica alba). Some species of Brassica are grown for greens, especially by the Chinese. All our wild species are weeds introduced from Europe. It would not be a paying crop and would prove a serious menace to agriculture on every side.

* * *

OUR WILD FLOWERS.

Many of our subscribers are no doubt interested in knowing the names and nature of many of our showiest wild flowers, shrubs and trees, yet have little opportunity to get the desired knowledge. To any so situated we cordially invite you to send in specimens for names. We are here for that purpose. Names, treatment, soil, shade or sun, wet or dry, positions and any desired information will be cheerfully given. Send flowers and foliage, with mature seeds also, if possible. If several are sent, best keep duplicates, giving numbers to both those sent and those retained. This will render mistakes almost impossible.

* * *

A LOCAL FLORA.

"Flora of Los Angeles and Vicinity," by Le Roy Abrams, A. M., instructor in botany in Stanford University, is a work that will be welcomed by all local botanists and students of the science, as well as by many who care merely for the scientific names of our numberless floral gems. This is the first comprehensive botany of this section ever attempted, a section fairly teeming with a vast, varied and interesting plant life, and the volume will doubtless meet the approval of the most expectant. Not that it is perfect or above criticism, for the author makes no such claims, but it quite fully and fairly lists our local flora in one volume, well bound and clearly printed, taking cognizance of all existing literature on the section covered, yet the author has personally collected nearly all the plants included in the work and therefore it largely has the merit of originality.

Thrice welcome as is this volume to the writer, he is nevertheless forced, in a spirit of fairness, to record two serious faults which must appear to all who carefully review it. First there is the lack of synonomy. Many of the generic names are new to us and the old ones should have been included. On the day of penning this the writer found a plant known locally as Tellima affinis in all local lists; in the new work it is recorded as Lithophragma affinis, old name not given—this is certainly an error on the part of the author. Secondly, more stations should be given, especially around Los Angeles, which, of course, is the chief botanical center in the section represented. This appears inexcusable for the author was aware that we had a number of energetic collectors in the local field, each and all of whom would have rendered him all the assistance in their power. To the same cause must be attributed a considerable number of omissions of plants fairly common. Nevertheless, it is a valuable work and should be in the hands of all interested in our native flora. For sale by the author, Stanford University, Cal. Price, $2.00.

THE SILVER LINING.

(Continued from first page.)

non-alcoholic grape juices, candied and canned fruits, raisins and a score of other preparations that bring revenue from appreciative trade and home market for a large quantity of fruit that would otherwise find no market. In the manufacture of these by-products there is a scope so great that it will become of immense economic importance to our orchardists as the processes become perfected. All these guarantors of permanent prosperity must be taken into consideration in summing up the agricultural possibilities of Southern California, from which to discern the effect upon this end of the State of a failure of our most important fruit crop. In this summary no mention has been made of grains, which are exported from Southern California in immense quantities, going coastwise from Mexico to British Columbia.

* * *

A penny saved is a penny made, and this principle is being exemplified in the production of live stock, poultry, eggs, cheese, butter, alfalfa and grain hays, canned vegetables and various other products to such an extent that the importation into the State of these commodities will soon cease altogether. Formerly these products were brought in at an immense sacrifice to our balance of trade in citrus fruits and the other commodities almost entirely exported. In giving this review of home-consumed products we must not ignore the progress in apple growing. Our cherries are not altogether received from the north, fine table grapes are not altogether imported, figs, dates, pine apples and a dozen kinds of exotic fruits are beginning to crowd the demand. From the trees of our home orchards and through the enterprise of orchardist and manufacturer even the finest novelties in glaces and crystalized products are now produced from local sources.

The conclusion reached from all these facts is, that, through the application of economical and perfect productive conditions, scientific preparation and sensible marketing, the products of the land so varied and desirable may be made and in fact are surety of the agricultural stability of Southern California. In the depression that may come over any of our soil industries we have a balance of collaterals that may be figured on in perpetual safety not only to the industries themselves but to the general business interests of this portion of the commonwealth. It may require change of cultural methods, the abandonment of unprofitable crops, the introduction of new crops, but of the main proposition of agricultural stability there can be no doubt. Courage and intelligent application will finally win for all.

CLEAN MILK.

There is not a strainer made that will take out more than the coarse dirt which cannot dissolve. Every ounce of soluble material that goes into the pail goes through the strainer. We just can't see it, that's all. The very portion which is soluble is the dangerous part. And, again, if the strainers, especially those of cloth, are not most thoroughly washed and sterilized, they will be mischief makers of the thirty-third degree. The only way to have clean milk is to have clean cows nad clean milkers.

When we come to deal with the practical side of milk aeration we are up against the serious proposition of air exposure in foul air. Most of the aeration takes place near the point in view.—Farmers' Review.

Trustees of the four reclamation districts on the Andrus and Brannan Islands, comprising 15,000 acres of swamp lands, have agreed to take steps toward establishing a uniform grade of levees for the protection of their property. The districts named extend from Walnut Grove to Rio Vista, on the Sacramento river, and are all in Sacramento County. The extent of the levees is about forty miles. Heretofore, each district is at the mercy of the others, and when one district is flooded the others are under water. A failure to keep up the levees in one of these districts acts disastrously to all the others.

George P. Adams, of Los Angeles, has accepted the trusteeship of the Highland insane asylum in place of H. T. Hays.

HORSES ON FLOORS.

The Cultivator often receives enquiries from liverymen and drivers of horses as to what causes tender feet in horses. The trouble is caused in most part from much standing on hard floors. Stocked legs, swollen joints, tender feet and many other ailments of these parts are due to keeping idle horses standing day after day on hard floors. Besides the bad effect upon the feet and legs, it is bad for the general health of horses to be shut up in the stable continuously. They should be let out into a yard or field every day when the weather would not make the turning out cruelty to animals, and the days are few when weather conditions have that effect. Dry, still cold all domestic animals in good health stand well, and are benefited by breatheing the free air at such times. But storms, either cold rain or high cold wind, animals should be protected from. There is health and soundness of limb in pure air, sunshine, and ample exercise, while illness and lameness lurk in the dark stable with hard floors, and often without the ventilation and cleanliness that animal nature, brute or human, demands if health is to be maintained.

The prune growers of Washington whose crops have been injured by a recent frost are not worrying over the situation, believing that the loss will be compensated for by the higher prices likely to be received for prunes now being held over from last season. Some growers are discouraged and are plowing up their prune orchards. The prices since last fall have been scarcely more than the cost of production.

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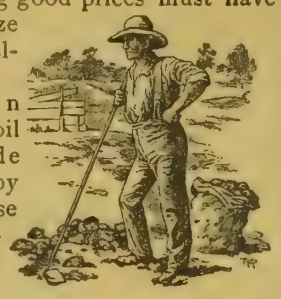

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We still have a few of the finest two-year-old walnut frees ever grown in California.

You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.

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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

LIVE STOCK.

The superintendent of the State asylum at Napa contemplates the establishing of a large poultry plant on the asylum grounds.

An organization to be known as the Cattle Growers' Interstate Executive Committee was effected at Denver, Colo., last week.

The Glen Holly Creamery company has bought the Eureka Co-operative creamery at Compton. The capacity of this creamery is 700 pounds of butter daily.

Orders have been issued to the rangers to shoot all hogs found at large on the Lytle Creek forest reserve, to prevent the further pollution of the water supply for San Bernardino.

Messrs. Campbell, of Buena Park, have purchased the noted Poland China boar "O. K. I Know" of Clark & Bishop, of Kingsburg. This animal has taken many prizes and its owners are justly proud of its record.

During March condensed milk to the value of $23,774 was shipped from San Francisco to Japan and more is to go forward. The normal monthly shipment of condensed milk to Japan is not over one-tenth of the amount sent last month.

Prof. A. T. Ward of the University of California is lecturing on poultry before the farmers of the State. By way of object lessons he kills a fowl or two during each lecture and displays the disease germs in them to his audiences.

HORTICULTURE.

The packing of Valencia oranges at Exeter will begin next week.

Vineland, Washington, will ship 40,000 boxes of cherries and 60,000 boxes peaches this season.

The first cherries of the season arrived in Los Angeles last Friday from Courtland, Cal. Sold at $3 per box.

The Ontario cannery has been purchased by G. H. Waters & Co., of Pomona, and will be operated this season.

The California Citrus Union has closed its packing house at Anaheim and will pack the remainder of its fruit at Fullerton.

A crate containing four baskets of apricots, the first of the season, was received at San Francisco Saturday from Southern California and sold for $5.

A conference of the dried fruit growers of the State was called for San Jose on Tuesday of this week to discuss the conditions which now menace the dried fruit industry and to agree upon a method to market the fruit.

Lieut. Gov. Alden Anderson, manager of the California Fruit Distributors, has gone east for an extended stay among the principal fruit markets of the eastern States, for the purpose of looking over the territory to be covered by the distribution of the next fresh fruit crop of California.

Judge Tourgee, U. S. Consul at Bordeaux, France, has traced our Santa Clara county prunes into Bordeaux, through the repacking process and export back to the United States, where, as French fruit, they sold at a price that left a good profit after crossing the ocean twice and paying a duty of 2 cents a pound for the privilege of returning to their native land. Maybe we'll learn something after a while.

AGRICULTURE.

Fifteen cars of cabbage are shipped weekly from Orange county.

The Coachella-Mecca section will begin harvesting its melon crop about May 20.

The Indio Cantaloupe Growers' association expect to ship 8000 crates of cantaloupes this season.

Frank Waters, of Anaheim, a berry grower, expects to close a contract for between 50,000 and 60,000 boxes of berries to be shipped during the season.

Twenty-seven members of the San Francisco Potato Dealers' association have withdrawn from the association because of the commission mens' contest with harbor commissioners.

At Orland, Cal., Samuel G. Cleek farmed 27 years on only one acre of irrigated land. He supported a wife. Just before dying recently, he bought three acres more, and left to his wife $4000 in bank.

Nectarines and plums around Auburn are reported to have suffered considerable injury from the excessive rains, but peaches seem to have stood the unfavorable weather conditions more satisfactorily.

The California Agricultural building at St. Louis will be the largest building, under one roof, ever constructed for exhibition purposes. This immense structure will cover nineteen and three-quarters acres, and at its main entrance will be the collective exhibit of California.

A correspondent writing from Turlock county lauds the work of the Swede in transforming that section. He says: "With the coming of water, the segregation of large holdings, and the arrival of hundreds of industrious Swedish families, who purchased tracts of 10 or more acres, that section has been made to bloom and blossom into a veritable Garden of Eden.

A correspondent of the Western Fruit association reports that one of the Guggenheims has played the mischief with the raisin market in New York by announcing a price in February, guaranteed to the end of the season, and then cutting the figure down to half the price, on the last of April. That will cause many tons to be carried over. Owners of 26,000 tons of California raisins would like to get their fingers on Guggenheim's scalp.

Mr. Herr, writing to the Sacramento Union of the floods in the Middle West, says the people of the Sacramento valley have little cause to complain in the matter of floods. He says he has lost his sympathy for California "flood-sufferers" after what he witnessed in the valley of the Wabash and in other parts, where for miles upon miles as far as the eye could reach, he saw flood waters covering the rich lands and converting farms into miniature seas, with only here and there homesteads rising out of the waters. Such floods, he declares, are in excess of anything we have in California, and in their destructiveness outclass us ten to one.

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ORPHANS RECEIVED.

The following children have been received in the Boys' and Girls' Aid Society Home from January 1st, 1904, to April 1st.:

Half Orphans — Wentworth Wolfe, aged 12 years, blue eyes, dark hair; Joseph Miller, aged 12 years, brown eyes, dark hair; Flora Halbe, aged 10 years, blue eyes, light hair; Margaret Halbe, aged 8 years, blue eyes, light hair; William Halbe, aged 6 years, light hair, blue eyes; Foster McMullen, aged 11 years, blue eyes, light hair; Lionel Dupes, aged 8 years, blue eyes, light hair; Pearl Dupes, aged 4 years, brown eyes, light hair; George Nave, aged 10 years, brown eyes, light hair; Ben Odell, aged 8 years, brown eyes, brown hair; Ogie Edwards, aged 11 years, blue eyes, light hair; Virgie Edwards, aged 7 years, blue eyes, light hair; Rosebud Edwards, aged 9 years, brown eyes, light hair; Frank Welkins, aged 8 years, brown eyes, light hair; Louis Yenies, aged 8 years, black eyes, dark hair; Bruno Yenies, aged 6 years, black eyes, dark hair; Joseph Trotter, aged 5 years, brown eyes, dark hair; Domingos Frank, aged 9 years, black eyes, dark hair. Herbert Grimes, aged 4 years, black eyes, brown hair.

MRS. E. A. CHRISTIAN, SUPT.

Coast News and Notes

CONTINUED

MISCELLANEOUS.

The new postage stamp is a beauty.

Alhambra will soon build a new high school.

A postoffice has been established at Dolgeville.

Hollywood has voted bonds for a new high school.

Campbell has just dedicated a new high school building.

The fishing season at Avalon is in its height for black bass.

Constable Fred Bristol was murdered by unknown parties at Chino on Friday last.

Some 750 bales of wool were delivered at Corning this week, the price averaging 17½ and 18 cents.

The threatened street car strike at San Francisco has been declared off and settled agreeably to all parties.

It is estimated that $3.500,000 will be available by fall for the construction of the irrigation works at Yuma.

A San Pedro boatman caught a half ton turtle and will send it to the world's fair as the oldest and heaviest native that will attend.

Contract for a dam across the Yuba river for debris restraining purposes has been let to Lewis Morenig, of Stockton. Contract price, $47,000.

An option has been signed by Dr. Tape, an experienced sanitarium man, for the purchase of the Arrowhead Hot Mineral Springs from the Coulters of Los Angeles.

The floods of the past season have forced some practical levee building along the Sacramento and San Joaquin which, it is claimed, will lessen danger in the future.

Dolgeville, the site of the factories of the Dolge Felt company, a few miles east of Los Angeles, is beginning to assume proportions which show the making of a young city.

In the future it will cost only 99 cents to bury a poor man in Ventura county. The Supervisors have let the contract for burying the pauper dead for 99 cents for each burial.

The creditors of Porter Bros., who failed in business about a year ago, have reached the conclusion that their assets will pay only about fifteen to eighteen cents on the dollar.

A Pasadena concern known as the United States Tin Mining Company, is opening up the tin-bearing rock on the Rancho El Lobrante de San Jacinto, located eight miles from Corona.

In some of the overflowed lands of Sacramento county much sickness has been caused by the conditions left by the flood. In Sutter township one thousand rats and many sheep and hogs have been buried and burned.

A movement has just been started in Vacaville to organize a young men's club whose members can enjoy the privileges of a reading room, gymnasium and other adjuncts of club life which can be secured by the united efforts of such an organization.

At the meeting of the executive committee of the Camino Real Association, last Friday, a committee to plan the organization of local clubs was appointed. J. R. Knowland, R. P. Jennings, Charles F. Lummis, Gail Borden and George Arnot are to devise the plans.

Cattle raisers, cotton growers, tobacco growers, wheat growers, corn growers, fruit growers, in fact all producers of food stuffs or clothing products, are equally interested in the movement in favor of organization to control marketing and command remunerative prices.—Up-To-Date Farmer.

The Lindsay Gazette says that W. S. Galyan tested a new well last week which showed a capacity of 12,000 gallons per hour. The well is 180 feet deep and will irrigate 100 acres of the farm. Other recent wells in the same vicinity are on lands of John Tuohy, Whitman Bros. and the Lindsey Citrus Co.

The citizens of Santa Barbara believe the United States government ought to fortify their harbor, and they have asked Senator Bard to see the War Department officials and ascertain if a survey cannot be made preparatory to getting an appropriation for fortifications at the next session of Congress.

A heavy stream of artesian water has been struck at station box S, on the stage road three miles east of Rabbit Springs, in San Bernardino county. The water rises eight feet above ground from a six-inch stand pipe. Several homesteads have been located in the neighborhood of the gusher on the strength of the find.

The bill authorizing the purchase of the Calaveras big trees did not pass the house. As these trees range all the way from 2000 to 5000 years of age, and as yet bear no evidences of senile decay, says the Vacaville Reporter, it is therefore reasonable to hope they will live long enough to enjoy the protection which is now sought to be thrown around them by government ownership.

Prof. J. W. Mills came out from Ontario Wednesday to see about having some grading done on the site of the government date experiment orchard, and stayed over till Friday to see the big date tree from the Wolfskill ranch at Winters, Cal., set in place in the orchard. The tree in its packing weighed 1700 pounds, and measured about 25 feet from root to tip. The trunk is about two feet in diameter.—Submarine.

Sheep shearing in Kern county has been completed and the fleeces averaged ten pounds. "A few years ago," says the Ukiah Times, "there were 500,000 sheep in Kern county, against 150,000 today. The sheep men claim that the closing of the first reserve is driving them out of business, and speak in tones of regret of the days when the grass was knee high on plains and wool was worth from 30 to 40 cents per pound. That was in the 70's and 80's."

During the summer and fall six national conventions will be held in this State, the general conference of the Methodist church, now in session, and the national gathering of the Brotherhood of Locomotive Engineers, will assemble at Los Angeles; the convention of the National Associotion of Retail Grocers, the Missionary Conference of the Methodist church, the Knights Templar Triennial Conclave, and the Odd Fellows' Sovereign Grand Lodge. Agents of the Southern Pacific and Santa Fe railroads estimate that the conventions will bring to this State over 100,000 strangers.

GROWING POTATOES.

In the Country Gentleman, A. T. Griffin tells of his success in growing potatoes and the method he follows in planting.

He says: I have planted potatoes for 21 years and I have raised no less than 250 bushels of good, sound potatoes to the acre in any of these 21 years. And while I have harvested 350 bushels this year to the acre, I do not consider that a large yield by any means, for there have been years in which I have taken from one acre of ground 450 bushels of large potatoes. Luck has no part in it. Good fertilizer and good culture tell the story. I plow late in the fall or very early in the spring, and as soon as danger of frosts is over and the ground is in good condition to work, I harrow until the ground is as mellow as ashes. I mark out rows 3 feet 6 inches apart and as deep as a potato planter will go down. I drop 1000 pounds of Bradley's High-Grade Phosphate that carries 10 per cent of potash. I drop the seed by hand, about 12 bushels of cut seed to the acre. Cover with a horse hoe. I am not afraid of covering too deeply, for after eight of ten days I go over the rows lengthwise with a weeder that kills all weeds before they start, and just as soon as the potato sprouts show through the ground I put a small handful of fertilizer between each plant. I then run a cultivator through each row once a week until the tops are large enough to horse hoe. I horse hoe twice, and do but very little hand hoeing, for the very reason that I use no cow manure, and my ground not being weedy, and no weed seed in the fertilizer, I am not troubled with weeds.

HORSES OF CALIFORNIA.

When California-bred sires and dams go thousands of miles from their native land and produce the very highest class of horses, it assuredly proves that there is more than rearing and training advantages. An intensely vivifying influence, an acquired prepotency, has been given so that evidently the fountains of life benefited fully as much, perhaps more, than the breathing animal. Fanciful as this may appear, there are logical reasons to support it. It is enough at present, however, to call attention to the disclosures made in the table containing the trotters, which have records below 2:05, eight in all, three of them were bred and reared in California, Lou Dillon, John A. McKerron, and Azote. The sires Major Delmar and The Abbott, Delmar and Chimes were also bred and reared here. There are only three to the credit of the "rest of the world," five of the eight carrying California blood, and this plain statement is "submitted without argument." And yet there is another point worthy of consideration. Four of the eight made records this year (1903)—Lou Dillon, Major Delmar, Cresceus, and John A. McKerron—two of them Californian. Three of them have beaten two minutes, and one half is the meed of California, viz.: all of Lou Dillon and one-half of Major Delmar. The victory over the Major is the most brilliant gem in the crown of Lou Dillon.—Joseph Cairn Simpson in Sunset Magazine for March.

The next meeting of the California Creamery Operators' Association will be held in Fresno about the last of November. One of its principal features will be a contest as to keeping qualities of butter. Butter will be received up to the 15th of June and placed in cold storage until the meeting, when it will be tested as to flavor. The purpose is to stimulate greater interest in importance of keeping quality of butter.

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CURRENT EVENTS.

Three millions for California.—California's share of the National Irrigation fund will be $3,000,000, to be expended on the Colorado river project. The entire apportionment just made by Secretary Hitchcock is $27,000,000 for construction of fourteen projects in the States of California, Colorado, Idaho, Montana, Nebraska, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington and Arizona and New Mexico. The plan for irrigating the Colorado desert is called the "Yuma project." With $3,000,000 thus expended by the government in irrigation projects in California, an impetus will be given to our industries which will put this State far in advance of any of the fourteen States provided for by congressional act.

* * *

To Try the Auction Plan.—A company has been organized in Los Angeles for the purpose of establishing auction sales at points in California. It is to be known as the Home Auction Company. One of the members of the proposed company outlines its policy as follows: "The company will consist of growers, shippers and capitalists, with a view to offering facilities to all packers, associations and individuals to dispose of their fruit for cash at home. The auction company will be open to all sellers and all buyers, and will be independent of all factions."

This organization is the outcome of the present agitation of the orange trouble in this State. It is purely speculative and must demonstrate its practicability by time. But its success is in doubt.

* * *

Deciduous Fruit Growers—More than 100 prominent fruit growers from different parts of the State attended a meeting in San Jose on Wednesday, called by A. R. Sprague of Sacramento, as chairman of the special committee appointed by the recent fruit-growers' convention at Fresno, to put into operation plans for the co-operative organization of the dried-fruit interests of this coast.

The plan proposed is to organize neighborhood associations in each district and pool their product and hold it in bulk to sell to the packers through a central agency. If prices are not satisfactory, then the heads of the different organizations will confer and fix a price to be universal. An adjourned meeting will be held on Tuesday next at San Jose, at which time a permanent organization will be effected for united action in selling fruit.

* * *

The Agricultural College.—President Ide Wheeler took occasion at the Sacramento Farmers' Institute recently, to correct some wrong impressions which have obtained relative to the work of the Agricultural College and its relation to the farming interests of California. Some criticism has been offered because President Wheeler has been quoted as expressing a sentiment unfavorable to the farming industry as now represented at the State Agricultural College. In his address at the Sacramento meeting he seems to have taken special pains to correct this impression, for, says the Rural Press, "The attitude of the University was very satisfactory to the people, and when President Wheeler, alluding to the work of the agricultural department, said, 'There is no line of activity of which the University is more proud; no work in which it is engaged that is more important.'" The meeting was assured that the institution was right at heart.

* * *

As Others See Us.—For years there has existed a strong prejudice against the United States on the part of the German farmers. From the agrarian point of view of the German Empire, there was little good in the American Nazareth. Recently, a few rays of light have broken through a rift in the clouds of prejudice that befogged the Teutonic mind. Hans Fehlinger, in a Berlin journal, quotes figures showing the remarkable increase in the volume and distribution of American agricultural products. "Germans," he says, "have too long remained in ignorance of American agricultural power."

Along this line, Hans Lidon, a noted German writer, has published a book, on America, entitled "The Land of Unlimited Opportunities." He says that "American institutions have made possible the development of a society not paralled anywhere else in the world. In its industrial superiority, and in the facility with which it adapted itself to all the perfected results of science it (our society) is wonderfully supple."

This may look like going abroad for news of home, but really it would appear that some of our European friends are better posted on the status of the American farmer than many of our citizens of prominence who live in our cities.

* * *

Prune Growers' Meeting.—The annual meeting of the Deciduous Fruit Exchange of Santa Clara county, held at San Jose on Saturday last, was productive of much satisfactory information. The report of the president, Philo Hersey, showed a clean warehouse receipt and a neat balance to the credit of the exchange. The following figures show the sales of fruit, all of which was taken care of except the plum crop.

The fruit receipts of the year ending May 1, 1904, are as follows: Prunes, 9,411,985 pounds; apricots, 821,331; peaches, 407,915; peeled peaches, 21,565; plums, 3000; pears, 34,822; silver prunes, 210,483; sugar prunes, 12,380; imperial prunes, 125,149; almonds and walnuts, 89,632; total, 11,139,262 pounds.

This does not include prunes of the crop of 1902, received since May 1, 1903, amounting to 468,064 pounds.

The cash transactions for the year are shown in the following table:

Cash report May 1, 1904: Stock receipts, $1250; sales, loans, etc., $426,006.54; total, $427,256.54.

Advances to growers, $363,452.69; salaries, manager, bookkeeper, stenographer, etc., $5280; for taxes, telephone, stationery, etc., $2441.19; interest, $1552.82; insurance, $2989.26; telegrams, $364.29; pay-roll, $10,909.50; fuel, $1364.91; sacks, $3837.58; commissions, $8049.12; boxing department $22,660.12; sulphur, lye, supplies, etc., $3087.15; repairs, $742.91; machinery, $525; total, $427,256.54.

Of the fruit received as shown by the above statement, nearly everything has been sold except prunes, and of the 9,411,985 pounds received over 5,250,000 have been sold, leaving unsold nearly three and three-fourths millions.

It must be a matter of felicitous feeling to the members of the Santa Clara Exchange that their business has been so handled as to sell all the fruit except the prune crop, which will be finished in the near future. The methods followed by the exchange may well be patterned after by other fruit exchanges in this State.

* * *

Agrarian Politics.—The time was, not many years ago that an old popular refrain: "Uncle Sam is rich enough to give us all a farm," was thought to be literally true. The government at Washington, for nearly half a century proceeded upon that theory to parcel out and dispose of the public domain, by homestead grants and by enormous subsidies to railway companies, by the issuance of land script and by sales at nominal prices. The land laws were loosely drawn—so loosely that they were susceptible of almost any kind of construction. As one of the results of the imperfect status of the public land law, we now witness the government in the ludicrous attitude of a contestant seeking restitution of some of the lands of which it has been robbed by fraud and jobbery. Recent investigations disclose the humiliating fact that much looseness and some license have obtained for a long time in the Land Department. Through script locations and fraudulent entries, millions of acres of the finest timber tracts in the great west were secured by syndicates and by wealthy individuals. By similar processes, millions of acres of farming and grazing lands have passed into the hands of a few men, to the disadvantage of many homeseekers and to the detriment of public good. Such a policy as has been pursued by the government, if continued, will in the end tend to cripple agriculture and produce what a noted economic writer terms "a profound inequality between the country's wealth and its population," and further, add to the perplexities of our industrial burdens. Several attempts to revise the land laws were made during the late session of congress, but these endeavors were brushed aside for the consideration of other measures. The persistent activity of a land lobby, representing private and certain corporate interests, contributed much toward the postponement of acts for the revision of the land laws. These laws should, at the earliest practicable moment be so revised as to afford a more equal opportunity to all to secure public lands for homes than is now afforded under the existing laws. Some limitations should also be provided for, defining the maximum amount of land that could be bought by a single purchaser, whether the purchaser is an individual or corporate person. The readers of the Cultivator should make it a point to urge the congressmen of their respective districts to give early attention and earnest endeavor to such a careful revision of the land laws at the next session as will provide for the greatest good to the greatest number.

* * *

The Methodist Conference.—The great conference of Methodists now in session in the city of Los Angeles is one of the greatest, if not the greatest, and the most important in the world's history. There are only 762 delegates actually on the floor and entitled to participate in discussion and voting, but the other visitors from the east, and others attracted by the low rates, make a vast number brought to the coast by this meeting.

The great Hazard Pavilion has been vastly improved by the expenditure of several thousand dollars in flooring, committee rooms, boxes and platforms, and otherwise a fine assembly room is made.

It is expected that five or six bishops will be elected and a strenuous effort will be made to change various provisions of the church discipline. This effort will be as strenuously opposed by the older members of the conference.

The influence of any change will be world wide, for the delegates are from all parts of the world. One of the most instructive features of the conference is the missionary exhibit, which is presided over by natives of Japan, China, India, Africa and other sections.

Meetings are attended daily by vast throngs, while the Sunday services have captured the entire city and immediate surrounding towns. Last Sunday nearly every Protestant pulpit in the city was filled by some noted Methodist, the crowd in some cases being so great that holding overflow meetings in basement or Sunday School room was necessary.

The session will last all of May.

* * *

Practical Legislation.—The time is ripe for the discussion of certain matters affecting the agricultural interests of this State which should come before the legislature of California at its next session. It has been the custom of the farmer to trust his interests to men totally ignorant of his wants and therefore wholly wanting in information of the needs of the State. California is essentially an agricultural commonwealth whose prosperity depends, in great part, on the products of the farm. Unless there is prosperity in the country there can be no prosperity in the cities, and without the growth of both interests the welfare of the State at large must wane. It is therefore vitally important in the selection of men to formulate our laws, to repeal or amend those at present on the statute books, that they shall be intimately acquainted with the needs of the farmer and naturally the needs of the State. The orchardists, the stock raisers, the farmers generally should see to it this fall that only such men are sent to the legislature as are in touch with the paramount interests of California. There are amendments to the present school laws which should be made to meet the conditions of our rapidly growing rural population. The road laws are sadly deficient in comprehensive force and should be so amended and enlarged as to provide a complete and thorough establishment of State and county roads, with provision for making rural roads ample for the necessities of the people. We certainly pay into the treasury a fund large enough to create and maintain a system of general and local roads unexcelled by any State in the Union. But

under the present system of expending the money we do not derive the advantage we should, nor are our roads what they ought to be for the money so expended. The irrigation laws are inadequate to protect the farmer against the grasping greed of corporations and need the experienced hand of the student of irrigation—of practical irrigation—to so amend and extend them as to make them clearly understood and uniformly just to the whole people.

These interests can not be taken care of by every one who aspires to a seat in the legislature. Men of years, of wide experience, of practical good sense, are needed now in the formative period of our commonwealth's history. The Cultivator earnestly urges the consideration of this subject, trusting that the assembly districts may take hold of the matter this summer with a view of selecting men of years of discretion and experience to represent the whole State in the forthcoming legislature.

* * *

Graft at the St. Louis Fair.—It is too bad that the graft principle should thus early manifest itself in the management of the world's fair at St. Louis. If information be correct not the smallest matter, not the most insignificant want of the individual but has been anticipated, and the means of selling or satisfying that want has been syndicated, monopolized, farmed out, and the man or woman who attends the fair will have to pay, not for luxuries alone, but the simplest necessity required. To put it as an eastern paper does, "The 'able' fair management has adopted a policy that will distinguish this fair in the annals of world's expositions as the one most ill-famed for the refinement and greed of its schemes, as well as their variety, in getting money out of the public."

The Chicago world's fair went down in history as one of the greatest public graft propositions in the life of public expositions. But from present indications the St. Louis exposition promises to go Chicago one better. The last graft proposition comes in an order prohibiting any one bringing a campstool or piece of furniture to sit on into the exposition grounds. This is to make good the seat graft. We presume this order will be followed by another prohibiting men and women from wearing corsets or other devices to strengthen their backs while they totter about taking in the wonders of the fair. When you become weary and want to sit down on a sofa, or chair, you will have to pay for the privilege. Some of us know to our sorrow the lame backs and tired feet we had at the Philadelphia, Chicago and Omaha expositions and at these a reasonable degree of comfort was provided for the foot-worn tourist. At St. Louis it will be different. The thousands of common people who have but little more than enough money to visit the fair and remain on the grounds for one day, will be mercilessly grafted for the ordinary privilege of sitting down to rest. Great is the graft to be. You may buy a seating privilege all right, but to continue the graft you must expect to have an order issued, if found sitting on the grass, that your watch and eye glasses shall be forfeited and you hustled through the gates.

Secretary Pease, of the San Bernardino Horticultural commission, shows that the expenses of the commission for April amounted to $350.90. Much infested fruit has been fumigated and some destroyed.

CITRUS FRUITS

Uproot the Orange.—As the Cultivator has heretofore remarked, California orchardists as a rule are creatures of impulses. Everybody plants lemons. Some one re-buds lemons to Valencias. The stampede to re-bud begins. Just now the orange grower wants to uproot his orange grove, but fortunately as yet has no general favorite to flock to. For this reason cooler judgment may prevail before the stampede begins.

We do not intimate that no oranges should be uprooted. There are thousands of them which may profitably be removed. These are where soil or climate conditions are not favorable to producing the best fruit, or where neglect or injury has lowered the vitality of trees that they will never be able to produce first grade fruit.

The production of low grade fruit is a loss to the producer and an injury to the other grower who has fruit of high grade. By the time the low grade fruit is picked, packed, transported, marketed, it is in exceptional luck if it commands enough to cover all these expenses. The expense of best grade fruit is no more and nets returns that much greater.

"There is room at the top" is true of professional life and equally so with producers. One of the best orchardists of Southern California recently remarked that only about ten per cent of his crop graded fancy. If this is the result with careful work there is explanation for the great number of orchardists who produce largely third grade fruit.

Cut it out and produce, or at least market, only the best fruit. Then will profitableness return, if the marketing conditions are bettered, as they will be before another year.

Meantime the shrewd planter will continue, we believe, to plant the best trees he can secure under the right conditions for the best results, and make more money than the one who plans to root out the trees and start over with something else.

* * *

Coal Tar.—In a recent visit to an orange grove we noticed trunks of all seedlings covered with coal tar. It had hardened and could be flaked off. We were told that these trees were once badly infested with gum disease, yet now showed under the tar a healthy bark was forming which indicated no presence of disease.

* * *

Tangerines.—A daily paper recently called for the planting of more tangerines on the ground that there are less of this attractive fruit on the market than there should be. Half boxes of this little fruit looks well on the market, sell readily at fair prices and as a rule are profitable to the grower.

* * *

Pruning.—The Cultivator will give in a short time an illustrated article on pruning the orange which will create some interest, for it will refer to a system so absolutely different from that usually followed that it will surprise those who have not seen it.

* * *

Cultivate.—Cultivator and weed cutter are in order in the orchard now. Every weed removes moisture. A coating of dry, perfectly pulverized soil retains moisture. All know this; fewer follow the practice than should.

NOTICE TO FRUIT GROWERS.

California Cultivator: Will you please notify fruit growers that require parasitic insects, Comys fusca for the "Brown apricot scale," infesting prune and other deciduous trees; also Scutellista cyanea for "Black scale" on olive, citrus and other trees; or Vedalia cardinalis for "Cottony cushion scale,' to send in their applications to Alexander Craw, Deputy State Horticultural Commisisoner, room II, Ferry building, San Francisco, Cal.

Distribution will begin in June. Applicants should send sample of scale in light paper box by mail; this will insure their receiving the proper parasites. Yours very truly, Ellwood Cooper, Commissioner of Horticulture.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 North Broadway, Los Angele

BARB WIRE CUT.

Editor Cultivator: My colt, 3 years old, was pretty badly cut on forefoot midway between ankle joint and hoof. Wound is healing from bottom all right. Have treated with "Zenoleum" wash and a mixture of vaseline and Zenoleum; but what is the best to do to prevent an ugly lump or scar being left after finally healing? How can I reduce the blemish usually left and get the hair to grow over?—H.

Apply a lotion of sulphate zinc, 2 ounces, sugar lead 2 ounces, water 1 quart. Apply with cotton and bandage. Change twice a day.

Reports from Clark county, Washington, state that the prune crop has been practically ruined along the Columbia river. Most of the prunes are falling off the trees because of the bad frost of May 3, which formed ice in many parts of Clark county, just as the fruit was forming. This makes it certain that the crop will be small.

Strawberry growers around Hayward find, in some localities, a worm working at the root of the plants. The vines wither and the berries dry up.

During the last week there has been a rapid rise in the water of the Colorado river, which has resulted in greatly increasing the flow in the canals at Imperial, which are now carrying over 30,000 miner's inches of water. There is now, as a result, no indication of water shortage, and every farmer has all he can possibly use. This will relieve the strain on the minds of the farmers in that section who have feared a shortage of water.

CLIMATE AND CROP REPORT

Grain and hay made rapid growth and are in very good condition except in those portions of the southern districts where the rainfall has been deficient and in the overflowed section of the Sacramento valley. Wheat is heading out rather late, but appears strong and healthy. Hops, beans, sugar beets and garden vegetables are doing well. Haying is in progress in many places and the crop is reported fair. Green feed is abundant and of good quality. Stock are free from disease and doing well. There has been no serious injury to crops by the high northerly winds.

The first box of cherries for the season was sent east from Vacaville April 30 and sold at high prices in New York May 6. Cherries are now going to market in considerable quantities from Vacaville, Stockton, Auburn and Sacramento, and strawberries are being shipped in carload lots from Sacramento. Reports continue to show the poor condition of peaches, apricots and almonds in many places, though in some sections peaches are reported unusually heavy and apricots nearly average. Grapes are in excellent condition in all sections and advancing rapidly, with indications of a large crop. Citrus fruits are in bloom and the trees are unusually heavily laden in some sections.

The beet crop shows every indication of being excellent. Over 4000 acres have been planted contributory to the Chino sugar factory.

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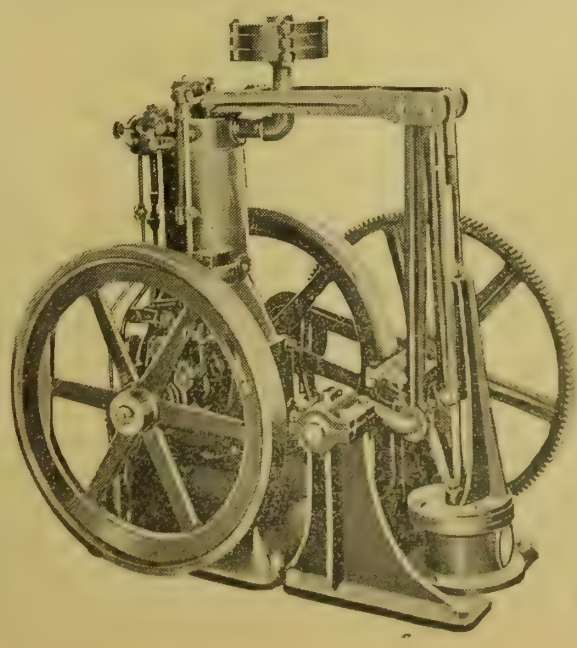

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LOS ANGELES

C. H. SESSIONS, ASSOCIATE EDITOR

The Cow . . .

Intelligent feeding and gentle handling are necessary to make cows do their best at the milk pail. If a cow weighs a thousand pounds, she needs, to keep her alive, without giving milk or carrying a calf, 23 pounds of hay. Now, calculate, if the cow lives on say 20 pounds of hay, when this is increased to 30 pounds, she must put fat enough into the pail to pay for the last ten pounds of feed. Now, the point is to find at what point to stop increasing the quantity and turn to increasing the quality, for the nutriment can be doubled within a given quantity of food. If the cow is dairy bred, she responds with an increased quantity. The fine point in the feeding of cows for record making, is to give this food palatability and to vary it, so as not to cloy the appetite. It is almost impossible to find any one that will carry this out except the owner. Here we have hopes of the young men from the Universities helping us. They will raise the dairyman profession out of the hands of the ignorant, and bring it up to the standard of the fruitgrower. In Wisconsin, the most intelligent of the farmers are dairymen, and there is no reason, with the constant help the University extends to all that are willing to listen to instruction that the same conditions should not prevail here.

The breeding of cattle for profit is a science that requires at least a working knowledge of biology, the student of Darwin and Huxley find in a cow yard answers to many questions that have long been a puzzle in the human family.

The transmission of quality and the laws governing sex run through the human into the animals and into the fruit trees and vines, even to the weeds of the wayside, we are one great whole that shows most beautifully the divine Creator's molding touch.

The balanced ration of the cow stable has lately been considered by some people to be a delusion, but until they can suggest some good explanation of the results attained by its use over a long extended term, we must abide by it rather than feed haphazard. In deciding what and how much to feed a cow, first, the animal's live weight must be considered, the amount of exercise, and the amount of milk produced, changes of temperature, and last, but certainly not least, the cost of the feed. The balanced ration calls for twenty-eight pounds of dry matter for every thousand pounds of live weight. This ration should contain two and five-tenths pounds of protein to form the casein in the milk and the lean meat of the body, twelve pounds of carbohydrate. This is the digestible starch and sugar. Half a pound of fat, this gives the ratio of one to five, which means one part of protein to five of carbohydrate and fats. This is balanced. Any excess of protein makes it narrow, while any excess of carbohydrates makes it wide. The rations of dairy cows should be narrow, while that of beef cows is wide or contain more than the proper proportion of carbohydrates. In feeding a ration too narrow, or one of excessive protein, we find a result that has never been explained, in that a dairy cow can be fed on it for a limited time and will give more fat in her milk than she is receiving in her food. This, however, is reaching a danger point, and may result in serious loss, as the slinking of calves, or the next generation of calves will be rickety. The familiar alfalfa poisoning of yearlings, where they cease to grow and the coat grows staring and the animal becomes hide bound, growing thin and weak while in abundance of green feed, is not rare. This is caused by protein in excess and many animals have been stunted for life by the lack of a little wheat straw, or corn stalks, to balance up the heavy alfalfa. Water in abundance should be where the calves and cows can always have fresh and clean. Milk cows often show a depraved taste for stagnant pools; now, if healthy milk is to be produced, these places should be carefully closed by fences. The water should be easy of access and the cows not have to climb up and down ravines for they will often go thirsty rather than do so. Any decrease in milk flow from lack of water or feed is not made up in an increased per cent of fat. If the natural elimination of the wastes of the system is not carried on by water, stagnation occurs and the milk flow lessened, and even sometimes tainted by the auto-infection within the cow's body; then follows a general inflammation that usually shows in the form of garget or caking of the udder. The udder being an extremity, the circulation of the blood is weaker, and chilling as well as disorders of the digestive system, often show in the form of inflammation of the mammary glands.

Again, at times the cows show a depraved appetite for rags, old sacks, or sticks of wood; this often shows a lack of bone forming material in the food and, if the cows are a breeding herd, should be supplied at once. The butcher will cut up some green bone into fine pieces. It should be not larger than grains of wheat, add a little salt and a little ginger and some carraway seeds, putting these out in small troughs or boxes where the cows can eat of it. You will be surprised how it will vanish for the first few days. The domestic animals on tame pasture become cloyed with the grass, for on wild pasture much of their feed is of a spicy character, they also eat of the trees and bushes freely, thus obtaining a wider diet than the alfalfa field affords.

Again, how often in California is bran made the sole feed of the cows; yet bran is protein in character and never balances against alfalfa hay or green feed. We regard it as too expensive to feed except when a cow needs as medicine a bran mash.

The Experiment station gives the following tables as the nutritive value of bran and good alfalfa hay: 100 lbs. of alfalfa hay contains 11 lbs. of protein, 36.6 of carbohydrates, 1½ pounds of fat. 100 pounds of bran contains 11.2 pounds of protein, 42.2 pounds of carbohydrates, and 2.5 pounds of fat; now, by wetting and adding some corn or middlings to chopped alfalfa hay, we have feeding value of bran reproduced at the rate of $6.25 against the current price of bran this winter. The small expense of chopping the alfalfa hay must be added; where there is a silage cutter and engine it pays to cut up a quantity, allowing at the rate of six pounds per cow each day, this to be used in the place of bran in the mixed feed. The smaller dairyman, by not studying the markets, makes many mistakes and adds greatly to the expense of the cost of feeding his herd. I hardly ever find any one that studies the tables of food stuffs, but prefer to rush to a dairy journal and ask what to feed, seeming to think that the value of the food lies in so many pounds of this or that material, instead of in the protein and the carbohydrates and fat obtained in the food. Now, I do not believe that any one can tell at a distance what to feed here as well as the owner of the herd. Here in Fresno we have one of the most promising of new feed, in the new caporo meal, a raisin seed by-product. It should take the place of oil cake. Our cows have been eating it for some time and it agrees with them well. The next month's tests will show what it is worth in proportion to the other meals. But this paper is already too long. In another issue we will try to answer some questions that have accumulated on the desk.—Minna E. Sherman.

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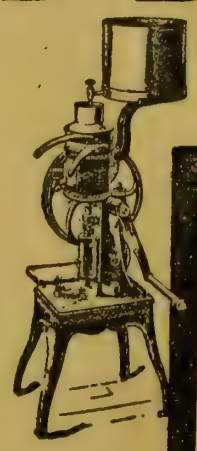

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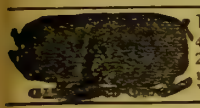

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Lumpy Jaw . . .

A correspondent writes the Cultivator asking what "lumpy jaw" is, whether it can be successfully treated and how to treat it to save the animal and not disfigure it.

Not long since the Oklahoma experiment station published a bulletin on this subject which covered the questions, or most of them, asked by our correspondent, and for the information of the stockmen of California generally the text of that bulletin is here given. Lumpy jaw is not as common in this State as it is in the Middle West, but there are instances of its appearance which warrant the conclusion that unless it is quickly treated and thoroughly treated, in its inception, it is likely to spread and run through a herd with baneful effects. The bulletin we refer to says:

"The disease is easily recognized and most stockmen are thoroughly familiar with it. Since the disease has the common name of lumpy jaw, from the fact that it most frequently attacks the bones of the head and especially the jaw, many think it does not attack any other portion of the body, but tumors are frequently found in the tongue, in the tissues under the skin, and in the internal organs.

By opening tumors that appear in the region of the head and neck one can be reasonably sure whether the disease is lumpy jaw or not by the character of the pus. In an ordinary abscess or boil the pus is generally thin and watery while that from lumpy jaw is thick, yellowish, and ropy, and if the bone is diseased there will be small hard particles of the bone mixed with the pus.

The cause of the disease is a vegetable parasite or fungus which is generally supposed to be taken into the body with the food and in those cases where the bones of the jaw are diseased the fungus probably enters the tissues through some small wound in the mouth, such chances for infection being especially abundant during the period when cattle are shedding or cutting their teeth.

In some cases the tumor may be dissected out when it is located in the muscles or loose tissues under the skin. The treatment employed by the station was the use of potassium iodide. Two things were learned in connection with the treatment, one being that the drug may be given with safety in larger doses than are usually prescribed and the other that in many cases where the disease is not cured the trouble is the treatment has not been continued long enough. This is especially true in severe cases or where the disease is of long standing. From the experience gained in treating the few cases referred to above the following is advised. Where the animals weigh over seven hundred pounds give the potassium iodide in doses of two drachms each twice daily until the dandruff shows abundantly in the hair and the eyes become watery. This will usually take from five to seven days. After this condition, which is called iodism, is established the treatment must be stopped for from five to seven days and then repeated as before with the interval of rest until the drug has been given for five periods in the severe cases and four periods in the milder ones. During the last two periods the amount of potassium iodide may be reduced to two drachms daily. In one case treated, the animal appeared entirely well at the end of the third period when the treatment was stopped but the disease reappeared after an interval of a few weeks and the entire treatment had to be repeated when it was continued for five periods. The ulcers and tumors will begin to dry up and the discharge grows less as the treatment progresses and by the end of the third or fourth treatment it has usually stopped but the drug should be given for at least another period. When the above treatment is fully carried out there will be a very small per cent of cases that are not completely cured.

WHAT WILL THE HARVEST BE?

As stated recently, Southern California is importing more high class registered Jersey bulls from the east than are going into any other State of five times its number of registered animals. Much careful investigation and money are given to procure blood that is representative of the best island dairy type. Care is taken to procure bulls "close up" to the sires and dams that have received highest and greatest number of honors on the Island of Jersey, and it has become quite the regular thing for the dams of such an animal to show "Highly commended" and "Reserve over the Island" for many generations back and for the ancestors, both male and female, to present for several generations an unbroken record of parish and general winnings in the show ring.

There can be no doubt that such animals, or many of them at least, have become firmly established in the type that represents the highest ideal of dairy quality from the island standpoint, which is conceded to be the nearest perfection in the world today. They will doubtless greatly improve the type now prevalent and aid in establishing a more correct ideal for breeders and in securing greater uniformity in the breed as represented in this section of the country.

But with this fad for "Island type" running rampant there is great liability that leading breeders may forget "what the meeting is for." It is the freight trains that prove a country great. "Dairy" stands for milk and butter, and eventually it must come to

Pure St. Lambert Bull,

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that. Most of us are "dead stuck on type"—which is a delightful condition to find oneself gratified in, if only he has the freight with it. If not, he's a Pullman labeled for a chair car.

Years ago, in the days of the Pacific Coast Jersey Club, people with but little idea of dairying, looked to the beautiful type of the Jersey for many years, with the result that there was evolved a type of certainly great beauty, but of a degreee of worthlessness that has been the bane of good Jersey breeding to this day. A thousand poor producing Venuses are giving the breed a hard name and sending dairymen in a distracted hunt for almost any old cross between a town pump and a malapus that can hoist foam over a milk pail, though producing no more butter fat than is contained in yeast or soapsuds. But those same early Jerseys were a type to make an artist rave, and nearly every one deserved to be hung in a gold frame (or, in fact, on a hickory limb), just so the hanging was a success.

It is pretty reliably established, however, that the best examples of the modern island type are also fairly good producers and many of them have fair ground tests of two pounds per day and better. That amount under such conditions proves such a cow a good one although surpassed by whole herds of American bred animals at favorable periods.

While the island type surpasses our own for ideal dairy qualities, it will require great skill to unite it on an extended scale with the best American stock without material loss in producing power. But that is just the problem presented, and it is hoped that sufficient ability and skill will be found to produce the desired effect.—C. W. C.

A REMARKABLE COW.

Southern California is not a particular stronghold of the Guernsey cow, but it may be said that it has a very select little bunch of that breed. W. M. March, of this city, is one of the pioneers in bringing in this breed and now has two which he is testing under direction of Prof. E. W. Major of the State University. The test is to be for twelve months, seven of which have already passed with the first cow named below. The showing which this cow is making is truly remarkable and so much so that Mr. March says he will be glad indeed if any dairyman or breeder will call at his place at any time—he milks at 7 a. m. and 8 p. m.—and witness the milking and weighing.

The first cow is Maltie, whose test began October 3. For the remainder of the month she gave 1206.8 lbs. of milk, which a composite test showed carried 4.3 per cent of butterfat. November, 1206.8 lbs., 4.9 per cent butter fat; December, 1128.8 lbs, 5.3 per cent; January, 1043.3, 5 per cent; February, 913.2, about 5 per cent—exact data not at hand; March, 987.1 lbs., 5.4 per cent; April, 978 lbs., 5.5 per cent.

This shows that Mr. March already has a wonderful cow and if present indications are of value for judging the next few months' performance, the total of 650 or possibly 700 pounds of butter will be the result of the twelve months' test.

This cow was scored by Prof. Major, showing 89 points.

Another Guernsey which Mr. March is banking on for a winner is Waller. Her test has extended only a little over four months, beginning December 25, and giving for the remainder of the month 259.2 pounds of milk, which tested 5 per cent. In January she gave 1235.4 pounds which tested 4.5 per cent; February, 1098.2, per cent not at hand; March, 1138.4 pounds, 5 per cent; April, 1108.7, 4.8 per cent.

BELIEVES IN GOOD PEDIGREES.

Editor Cultivator: You published in the dairy department of your issue of April 22, a very complimentary notice of my herd and of some stock I lately acquired by trade from the La Palma herd. Unfortunately this article was not signed, so that some of your readers no doubt have inferred that this paragraph originated with me; in fact, I have received a letter from one of our breeders taking me to task for what seemed to him a glaring inconsistency. I wish therefore, that you would give the statement that I was not responsible for this notice equal prominence with the notice itself. I do not wish to seem ungrateful for the compliment paid to our stock by its writer, but as I had said in a letter on tests in the same issue, "it is up to us breeders to put up or shut up, to test our cows for actual production or to quit boasting about them," I feel that it puts me in an unpleasant light to leave my position in this matter unexplained. I believe in good pedigrees because I believe an animal represents the accumulated characteristics of all its ancestors, but I also believe that an individual cow whose performance is not good should be weeded out, and that pedigree alone should not be our boast. Where a breeder has several cows to test at the same time, the cost of authenticated yearly fat estimates will be comparatively small, and if our breeders in Southern California can only be persuaded to put into practice these tests, we will certanly be able to make some very interesting statements in advertising our stock in the future, without any hot air either. I am glad to announce that Vela Hastings has freshened and been started on a yearly test, and as she gave four gallons the first day she was milked out, I believe she is going to do better than in any other year. I hope the owner of the next cow to start on such a test will report to the Cultivator and keep us all in touch with her work through your columns.—C. W. Leffingwell, Jr.

Complaint is made that chicken theives are abroad in the region around Los Angeles. A padlock doesn't cost much and may help to save much. Poultry meat is about the dearest thing in California. Lock the doors and unchain the "bull pup."

The Imperial Press has been sold to Charles A. Gardner, late of Santa Paula.

F. A. MEACHAM
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MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

FATTENING FOWLS.

Last month I gave an account of the fattening of fowls in France as I saw it done in my young days. I spent a winter in England near Dorking, in Surrey, the home of the celebrated fowls of that name. Surrey is a county in the south of England which is celebrated for its fowls. The farfamed "Surrey fowls" are also raised in the neighboring counties of Sussex and Kent, where for hundreds of years they have been reared and fattened for the London market. The fattening is usually done by "fatteners" who go round the country buying from the laborers and farmers the fowls to be fattened and who make their living by this.

These men are excellent judges of poultry, can tell at a glance if a chicken is capable of being fed to advantage, and can drive a sharp bargain too. At the homes of the English country squires there are always also fattening coops, where all the fowls used for the table are fed.

* * *

The fattening coops in England are slightly different to those in France. They are not placed in tiers one above the other, but are made with slatted bottoms, so that the droppings fall through on to the ground, which is kept covered with sawdust and renewed twice a week. The coops are kept out of doors in summer under wide spreading trees, and in a shed in winter. The roofs of the coops, also the back and sides, are solid and care is used that the fowls be not placed in a draught. A tin or wooden trough runs the length of the coop.

The fowls are fed three times a day in these troughs. The maid passes along the row with a pail in her hand, ladles only a little out to each fowl, then returns again and sometimes a third time; it is a sort of three-course meal. After they have eaten all they can, the food remaining is emptied into a bucket and the troughs filled with water. If food is left before them all the time, they will not do nearly so well as if fed at regular intervals only what they will eat up. The fowls are kept in the fattening coops from two to three weeks; they cannot be kept longer without either getting ill or losing weight, as the confinement tells on them.

The fowls are the "Surrey fowl," a Dorking, or grade Dorkings; the lighter breeds are not bought for fattening over there. The food is a mixture of oatmeal and barley meal, with sometimes a little corn meal added; it is mixed with warm skim milk, rather thin, thicker than pan cake batter, but not dry crumbly; when a spoonful is taken out the rest will flow in and fill up the hole, leaving the surface level. This is the food for the first week, then a little mutton or beef tallow is added, about a teaspoonful for each fowl, gradually increasing till at last a tablespoonful is the quantity during the third week. The tallow is melted to mix with the warm milk and the food is fed at about milk heat. A little salt is added. After the feeding the troughs are filled with clean water, which is left before the fowls. Grit is also kept before them.

* * *

Fowls are always cooped and fattened both in England and France before being cooked for the table. It would be considered exceedingly uncleanly to eat a fowl that had been running at large without the proper food. Fed in this way the taste of the flesh is exceedingly delicate and delicious. It is tender and jucy. I heard that some of the fatteners use a cramming machine in England similar to the one I saw in France, but I did not see it in use when I was there. At some places I saw the girl feeding "pellets" toward the end of the fattening period. It was the same food mixed drier. Regularity of feeding was observed, and the fowls seemed eager for the food.

* * *

In both England and France dressed fowls are placed on the market in a more attractive form than in this country. There they are picked dry. They are killed in France by having a sharp pointed knife run quickly across the great veins in the back of the throat, and with a twist of the hand and knife it is pushed into the brain, killing the fowl instantly. In England the neck is twisted and broken. In both countries the heads are left on when dressed. As soon as killed, whilst the body is warm, the feathers are plucked off. Then the fowls are shaped for market. In England they place them in a V-shaped trough, the shanks are tied together, the legs pressed into the sides. They are placed in the trough with the breasts down, the head hanging over the side, then when the trough is full, a board with a heavy weight on it is put on the top to press them down. This is done whilst they are still warm, before they stiffen. They are left in this press about twelve hours and when removed are compact, plump and well shaped.

In a former article I promised to relate how my friend, "the successful man," marketed his spare cockerels. Now having described the methods in vogue in both England and France you will easily understand his process. First of all a coop was necessary. This was composed of laths six feet long. He made two squares of one inch by two inch redwood, eighteen inches square; these were for the ends. On these he nailed the laths for the top, back and bottom, the width of one lath apart, being careful to nail the first lath 2 inches from the back to allow the droppings to fall through, otherwise they would lodge on the lath at the back. For the front and the divisions he cut the laths in four pieces of eighteen inches; the fowls had the entrance doors that either slid up or opened with a hinge (made of leather). The coop was six feet long, divided into six little coops or stalls. A "V" trough was made to fit into two "V" notches in cleats nailed at each end. The coop was hung up in a room in the barn at a convenient height. Newspapers were spread on the floor to receive the droppings, which were easily removed daily. The coop was large

enough to hold twelve young chicks (two in a stall), or six full grown fowls. The food was bran, rolled breakfast oats, and corn meal in equal parts mixed with skim milk. A little salt and coarse sand was sprinkled in the food. The fowls were fed three times a day of this, all they would eat up in twenty minutes; the food was then removed and water left before them. One curious fact in feeding this way, they did not eat more than those that were running at large, but by their being kept quiet in semi-darkness, they did not turn the food into sinews and muscle; they became tender, even the bones were so tender that, when the fowls were removed from the coop, they had to be carefully handled to avoid breaking bones.

* * *

The fowls were killed by decapitation. They were carefully scalded and quickly plucked. The large feathers were considered worthless; the soft small feathers were saved and dried by being placed in gunny sacks and hung in the sun or laid on the roof. The loss of weight for the head and feathers averaged a quarter of a pound for each fowl.

* * *

After the feathers were removed the fowl was plumped by being plunged for five seconds into scalding water, then into cold water. The wings were then turned so the tips nearly met on the back; this keeps the breast out and the fowl straight. The legs were pressed in place and the fowl allowed to cool in proper shape. The "successful man" had followed the plan I outlined for him. It was a sort of modified French method adapted to the rush of life here, and was the plan I had successfully pursued for several years. He made a perfect success of it, and had he lived would have added dressed fowls to his large egg trade.

* * *

One year when I tried to introduce new bloods into my yards I hatched out three hundred fine chicks, which to my sorrow had green legs. These, although thoroughbreds, were disqualified for breeders and had to be marketed. I fattened, dressed and marketed them as above described. One of my customers remarked that he had never tasted such delicious fowls in California. I took some to my butcher, where I went to get green cut bone; they gave me twenty cents a pound for the first lot, but next time I went in they offered me twenty-five cents a pound for all I could let them have. He said, "Mrs. Basley, you certainly dress fowls to perfection; they are the best we have ever handled, and we will be glad to give you two bits a pound for them."

* * *

Any one can feed, dress and market fowls as well as I, and can make a success of it. I have given the full particulars to show how easily it is done. The requisites for fattening are, quietness, semi-darkness, proper food, regularity of feeding. The fowls by this method do not become excessively fat. The food goes to make flesh rather than fat. The inactive, sleepy life prevents the forming of muscle, so makes the flesh tender and juicy. Fowls fattened in this manner are called "stall-fed," or sometimes "milk-fed."

* * *

For old hens that have outlived their usefulness and for what is called "soft roasters," cockerels from six months to a year old, and also for capons, this way of fattening is excellent. It makes them tender and juicy; the fat is not all in thick layers—it is mixed in the flesh. The muscles not being used soon become soft and tender, and the fowl has an entirely different flavor to those usually marketed.

Since I came to California I have learned that Armour & Co., and some of the large packing houses, are fattening chickens. I wrote to a friend in Kansas City asking for information on the subject. I wanted to know how Armour fed and what. The reply was that they refused to give any information. However, my friend learned that the fowls were cooped in a darkened room in small stalls and fed with a mixture the ingredients of which were kept secret, and that they were kept from two to three weeks in these coops; that thousands were killed weekly, and that the company were contracting to buy all the fowls from certain districts on condition that the farmers either kept thoroughbred Plymouth Rocks or graded up their flocks with these, because they responded more quickly to the fattening process than mongrels. This was interesting information. It shows that if it pays Armour to fatten the fowls he buys from the farmears, it would pay the farmers to fatten and sell to private customers. And I have proved here that it pays and pays well.

OATS FOR POULTRY.

In many papers I see the statement that oats are not fit for poultry food, that hens do not like them and will eat anything else they can get before eating oats. Now, I believe this same condemned oats is one of the finest and best poultry feeds we can use as well as the cheapest. I have been feeding them regularly for over twenty years and would not do without them, but do not recommend feeding them dry. In the summer time I soak them twenty-four hours, and in cold weather I put them over the fire in the evening long enough to boil and feed them warm next morning. I am now feeding them thus: In the morning I put three gallons of oats to soak, and by the next morning there will be about four gallons of them by swelling. I add to this nearly same amount of bran and shorts (equal parts) and about two pounds of oil-meal and four pounds of meat meal mixed so as to be moistened and crumbly, adding two tablespoonfuls of salt. I am feeding this every morning, and yet the fowls, old and young, will select out the soft oats first every time, but I do not use the chaffy, light oats that we often find on the market, but buy the heaviest, clean oats I can buy, and it would do you good to see what bone and frame grow from this ration with wheat and corn for noon and evening feed. I believe it is conceded by all other breeders that oats in some form is the best possible feed to develop the colt, calf, lamb or pig, but these all have grinders, so in feeding oats to poultry to get best results they must be soaked or boiled, and if in addition to this a liberal amount of good grit is furnished you will find oats an ideal feed as a bone and flesh former and also an excellent egg producer. Try them as I have described and see if your fowls do not soon learn to love them.—Connecticutt Farmer.

Remember what the poultry editress of this paper says about draught on chickens. Better have the whole side of the house open than a crack or a knothole in the wall through which the wind blows on the fowl. Just as sure as the chicken takes cold that soon is it a candidate for all the diseases poultry is heir to.

Do not have your chicken yard exposed to the boiling sun of summer. See that some shade is provided for the chickens in the way of trees, or brush, or cloth covered nooks where they can run and refresh themselves.

Gather up the charcoal from that old brush pile or straw and throw it into the poultry yard or into the scratching shed.

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Standard Bred
Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
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are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
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Eggs for hatching from PRIZE WINNING and utility bred stock, by the sitting, 100 or 1000, also breeding stock of all ages for sale. Write for folder giving prize record to
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The 1904 Catalogue B
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PURE BRED WHITE LEGHORNS
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DORKINGS Oldest known fowl, parent of Orpingtons; England's utility breed, fine layers. Eggs in April $2.00, express prepaid. Buff Cochins, Golden Polish also. Never defeated in the shows. Harry McIntire, 27th & D, San Diego, Cal.

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Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
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and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is
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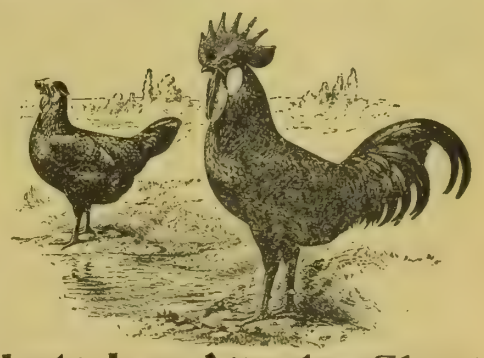
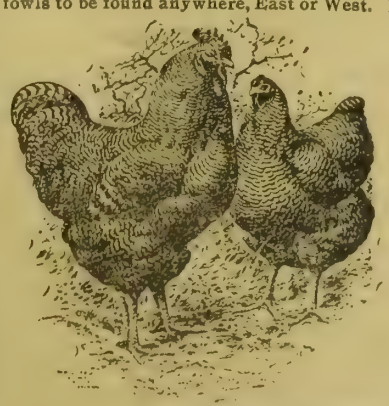
White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks



Trophy Winners at Late Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proved their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees



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Andalusians . . .

Editor Cultivator: Referring to your article on Blue Andalusians in your last issue regarding their not breeding true to color: I have been breeding Andalusians exclusively for some time and find it impossible to have a single hatch without a white or black chicken. If we get 75 per cent of "Blues" out of a setting we are doing splendid, but it is more generally 50 per cent. They are a parti-colored fowl and it will be years before we will be able to breed them true to color, if ever, but the off-colored ones are just as good layers and if mated to a good Blue male, will produce a goodly number of Blue chicks, but for breeders, who are selling their eggs for hatching, this would not be proper, as they should breed from the best only. There are also two shades of blue, light and dark, but if the lacing or penciling is clear and distinct, either color will pass for good specimens. The light blue, nicely laced, are the most difficult to produce and should be mated with a darker colored male and the dark blue hens with light breasted male. They are becoming very popular with the farmers, as they are one of the greatest egg producers known, laying large white eggs. The chicks are very hardy, mature early and make a delicious table fowl. They are very handsome, and the combination of color presented is certainly a pleasing one. The red, white and blue of our national emblem—the red eyes and combs, white ear-lobes and blue plumage—but as lovely as they are, the Andalusian's strongest claim to popular favor is utility.—Mrs. T. R. Griffith.

YOUNG TURKEYS.

"If turkeys are properly fed and managed the mortality among them will be less than that of chickens. Very young turkeys do not really require more care and attention than young chickens, but they do need different management and foods," says Mirror and Farmer. "The best way to secure good turkeys is to purchase two sittings of eggs from a reliable breeder. These should be placed properly under common chicken hens which are known to be good sitters. As soon as hatched the mother hen should be confined in a rather close well-sheltered pen, which will allow free egress and ingress to the young turkeys. They should be fed frequently and bountifully upon scraps from the table, moistened in skimmed or fresh milk and mixed with finely chopped onions. To keep off lice, which are always fatal to young turkeys, the wing and covert feathers should be well oiled once a week with pure melted leaf lard. To prevent bowel disease they may be given three times a week a heaping teaspoonful of ground dried blood (to each dozen turkeys), mixed with the food and increasing the amount as the young turkeys grow. After they are two weeks old the hen may be allowed to take her brood on the run on bright, warm days, and when they are a month old they can be given perfect freedom if the weather is not too inclement. They may be given, in addition to their other food, plenty of cracked wheat and will need but little further attention. Expensive poultry houses are not desirable for turkeys, as they thrive much better if allowed to roost in the open air as soon as they are large enough."

ECONOMICAL FEEDING.

Our observation has led us to believe that the majority of flocks are kept at too great an expense. The owners have it in their power to materially lessen the cost of the feed without any bad effect upon the profits. There is too much grain feeding and not enough vegetable food and cheap animal matter. We hear a great deal about giving good attention to the flock. The meaning which is put upon this by many is to feed with an unstinted hand. The consequence is that the flocks are overfed with concentrated foods under the mistaken idea that this is good feeding.

The true meaning of good feeding is variety. Excessive grain feeding leads to more than half the evils which disappoint the hopes and aims of poultry breeders. The hen is at the highest state of health and thrift in the spring of the year when she is at liberty to pluck her fill of grass and other green growths just freshly sprung from the ground. Upon this alone she will thrive and perform all the functions of her nature, though experience has taught us that she is none the worse for a moderate allowance of grain. But an exclusive vegetable ration is better than a ration wholly composed of grain.

Abundance of green feed can be had for use for almost nothing. Cabbages, turnips, beets, lettuce, cost only the labor to grow and harvest them. There should be an abundance of this sort of food on hand. Then hens cannot be given too much of it in connection with a limited ration of grain. The expense of keeping the flock will be reduced at least one-half if they are given all of it that they will consume, and the hens will be in better condition and give more satisfactory returns in the way of eggs. It is surprising at what little expense a flock can be maintained by making preparations in season for carrying it through the winter by this manner of feeding.

Grain is the lazy man's feed. While this statement may awake resentment in the minds of some, we shall offer no excuse for making it. The majority of people who feed grain day after day without change do so because it is the kind of feed which can be given with the least trouble and labor. The important thing with those who want to make a success with poultry is to learn how to keep their flocks in the best condition at the least expense. While it is right to spare themselves unnecessary labor, they should not try to dodge the labor when they can make it save them a large part of the cost of supporting the flock.

Happy is the poultry keeper who has dry earth, sifted coal ashes and litter with which to keep the hennery sweet and dry for the next six weeks.

"THE BLUE GRANGE" ANDALUSIANS

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BARRED ROCK EGGS
Choice mating, $1.50 per 13
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from Mrs. A. Basley's strain of
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$2.50 per setting of 13
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Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
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BUFF ROCKS
Eggs—$2.00 per 15
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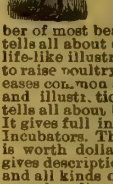
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Peerless Chick Feed is the best balanced ration of pure, clean seeds, grains, meat meal, charcoal and grit known to the poultry breeders. The benefit derived by its use is marvelous, and is endorsed by all who have tried it. Prices: 100-lb. bag, $4.00; 50-lb. bag, $2.00; 24-lb. bag, $1.00; 5-lb. package, 25c.
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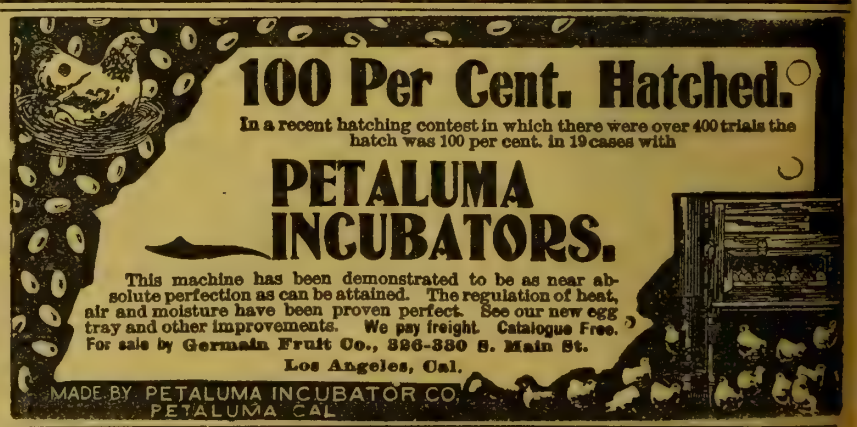
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In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
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This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
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There May be Other Chick Feeds, but People Do Not Want Them

I want to thank the thousands and thousands of people that are using
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ADVANTAGE OF POULTRY WITH FRUIT.

There are two branches of farm business that yield high net profit and which may be conducted together in harmony for the most part and under most conditions; these are fruit growing and poultry keeping, writes H. E. Van Deman, in Green's Fruit Grower. It requires a man or woman of more than ordinary intelligence and business ability to grow fruit to the best advantage, and the same is true of the requirements for a good poultry keeper. One must be wide-awake, patient, painstaking, resourceful, energetic and generally alert to take advantage of business opportunities if he or she is to make a real success in either calling, and when one has a proper amount of these qualifications to conduct one the same will be true of the other.

By working these two industries together it may be that one will succeed better at one time than the other and in this way afford a more steady revenue than would come from either one alone.

There are several branches of poultry keeping, such as the keeping of chickens, turkeys, ducks, geese and even guineas; and these may be again divided into egg production and meat production. There is ample opportunity for diversity in fruit growing as well, for one may follow apple orcharding alone, or grow several other orchard fruits, or add berry culture to one or more of those just named. In most cases it will pay to diversify to some degree, so as not to have "the eggs all in one basket." But there should be no guessing or indefinite accidental ways of deciding what to do, or how to do it. In my own experience the production of eggs has been far the most profitable end of the chicken business, and the Leghorn breeds the best of all, in every way, even for raising young broilers for the home table.

There are very few fruit growers who do not have sufficient land to allow a wide range for poultry, and this is just what is needed for the cheapest and most satisfactory methods of keeping it. The peculiar conditions of the farm and the family must govern, at least very largely, what is done. It does not pay to overtax the abilities to carry to a success what is undertaken. It is better to attempt too little and do that well than too much and do it poorly. A few hens with plenty of room over which they can ramble almost at will are far more profitable than a big flock with scanty room. Whether it be chickens or other kinds of poultry, they need ample range over which they may pick the tender grass and other herbage and forage for the bugs and worms that they need to balance their rations. It is the hen with plenty to eat and of varied food and much freedom that usually lays the eggs. The little chicks that have the same degree of generous treatment grow rapidly and make vigorous, healthy fowls. And as to turkeys, they need range almost without limit.

Nearly all kinds of poultry work into the economy of the fruit farm, or that portion of any place that is devoted to fruit culture, as insect catchers. They look into every nook and corner and sometimes scratch where we do not want it done to get the least bug that crawls or flies. That they do some harm we will all agree, but they do a lot of good in this way. Guineas are the most industrious insect catchers on earth. They also pick up a great deal of their living from the fallen fruit that might otherwise be largely lost by decay. Of course they are troublesome in the berry patches at certain times, but they can be shut up in case of necessity, until the berries are out of season. I have found by experience that hens well fed at the trough bother very little in the berry fields or elsewhere on the fruit farm. In the vegetable garden they are an almost constant nuisance, and I believe in either wiring in the gardens or the hens and the latter one can rarely afford to do on a farm.

If poultry is kept on the farm in considerable numbers, say 200 or more, and fed liberally, as should always be done, the manure that can be saved and hauled out on the place will make a great difference in its fertility. I have bought and fed several hundred dollars' worth of poultry food in a year, and the manure resulting from it had a marked effect everywhere that it was put.

The shade of fruit trees is very suitable and agreeable to the keeping of poultry, especially when it is young. Portions of apple orchards make the best of runs for the rearing of chicks and so do other orchards. Plums are often grown with more success in poultry yards than elsewhere, because the curculio is kept down by the fowls to some extent.

If the soil is plowed and otherwise tilled under the trees, it is no disadvantage whatever to the poultry. Mellow soil is a delight to everything that has feathers. They scrath and wallow in it to their own good and no injury to anything.

I have seen fruit farms where poultry houses were scattered over them, so that one flock would not encroach upon the territory of another. This is an excellent plan in some respects, for it is not well to crowd a large number of fowls in one place, if the best results are to be obtained. Some have movable houses, so they can be changed from one place to another. This gives the chickens fresh ground to work over and benefits the whole of the orchards more nearly equal than if the houses were permanently located.

Whatever is done in the way of combining fruit growing and poultry keeping should be begun in a moderate way and gradually increased. Experience will show the way to proceed. It will not take long to see what is or is not the better plan to follow. Rest assured that there is almost no limit to the market for good fruit and fresh eggs. Both are largely composed of water and do not deplete the fertility of the land on which they are produced. The business is interesting and highly honorable in both branches and is well worthy the best efforts of anyone who loves country life.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

Is a good book, well worth the subscription price. Every person handling chickens will get valuable pointers by reading this book, which tells in a short, concise, practical manner the best method of raising and marketing chickens and eggs. Sent postpaid to any address for $1.25.

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151 E. AVENUE 55, LOS ANGELES, CAL.

HATCH IN SEASON—NOW
Selected Eggs, Guaranteed First-Class, $1.50 per Setting of 13
S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS
Eleanore Poultry Ranch
1½ Miles East of Glendale P. O. Address, Garvanza
Incubator Chicks Hatched to Order

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after using
PRUSSIAN LICE KILLER

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CHAMBERLAIN'S CHICK FEED

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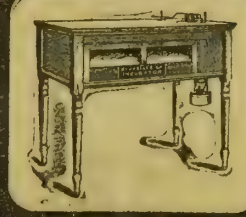

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JUBILEE INCUBATOR CO. OAKLAND, CAL.

Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.

Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

Panorama view showing part of A. J. Bloom's Poultry Farm, situated in Chileno Valley, about 14 miles from Petaluma. There are 200 hens at each group of poultry houses, there being all told about 5000 laying hens. Besides, there are over 5,000 growing chicks and pullets, besides the fancy stock. Then there are about 1000 ducks. Making all told over 11,000 head of poultry on the place. Mr. Bloom purchases COULSON'S Balanced ration EGG FOOD BY THE CARLOAD, 15 tons at a time, and uses about 4 sacks a day of Coulson's Egg Food besides the Chick Food.

PART X.

Of all the places we visited, A. J. Bloom's place in Chileno Valley (which we show photos of in this issue) was the most interesting, for on this poultry farm there is more poultry than on any other one place and there are also more varieties, more fancy stock, and everything was fixed up in good condition and well cared for and it is a modern, up-to-date poultry plant.

Mr. A. J. Bloom owns the 775 acres of this dairy and poultry ranch and also is interested in other ranches in different parts of the State (one of which is near San Diego). He also has valuable property in Petaluma and is one of the directors of the First National Bank. Sometime ago Mr. Bloom purchased Cedar Grove Park in Petaluma and it is said that he will soon start another big poultry plant there for the purpose of raising broilers for the San Francisco market and if he does he will establish one of the largest poultry plants in the West, possibly the largest in the world. Mr. Bloom purchases Coulson's Poultry Foods by the carload.

To get to this place in Chileno Valley from Petaluma, one must take the Western avenue road and drive out about fourteen miles. When we drove out to this place it was a beautiful spring morning in the early part of April and at this time of the year in this part of the country nature is in all her glory and driving out in Chileno Valley is some of the prettiest country you ever traveled over, for the road runs along in a valley with the hills on each side and these hills were all covered with a beautiful carpet of green, the trees were all leafed out and the fruit trees were all in full bloom, then there were the beautiful fields of grain growing and which promised abundant crops, and all the vacant fields and hills were clothed in green grass intermingled with all varieties of wild flowers, especially the beautiful California poppies, also buttercups, blue bells and many other kinds of flowers.

Pekin Ducks 6 weeks old on A. J. Bloom's Poultry Farm. Mr. Bloom has five more yards of these. A brood is hatched out every 2 weeks by incubators. When they get to be 10 weeks old they are sold in the market for $7.50 a dozen.

To feed ducks, take Coulson's Chick Food and add to it a little bran and middlings and mix with sour milk.

Residence of A. J. Bloom.

Out about twelve miles from Petaluma is what is called the Lagoon. At this time of the year it is a lake that is stretched along on one side of the road for about two miles. In the month of June the lake will be all dried up, then the farmers get in and plow it all up and plant it in hay and grain and before the rain starts in in the fall they cut and harvest the heaviest crops of grain, for it is the richest land and grows abundant crops.

It was about 2 o'clock when we drove into the Bloom dairy and poultry farm and we found Mr. Bloom at home, for we had made arrangements with Mr. Bloom the day before that we would be there that day and we were now on the largest poultry farm in the country, not only poultry, but one of the best dairy ranches as well, for there are 110 thoroughbred Jersey cows, and the creamery is equipped with the best modern, up-to-date improved machinery and they make an average of 115 pounds of butter daily or a pound a day for each cow. Then there is all kinds of other live stock, horses, hogs, sheep, Belgian hares, etc., also pigeons, of which they sell about 1000 pairs of squabs a year. Then the Pekin ducks—at that time there were six yards (see illustration of one yard) and of these growing ducks there were about 1000 all told. They are hatched out in incubators and every two weeks a brood is hatched. They are less trouble to raise than chickens and when they get ten weeks old they are sold in the market for $7.50 a dozen. (Parties desiring to start in the Pekin duck business should write to Mr. Bloom, as he has some fine stock and makes a success in raising them.)

Young ducks can be fed on Coulson's Chick Food mixed with bran and middlings and milk, chopped vegetables, etc.

Mr. Bloom also has a few pens of fancy stock of poultry. Of the White Plymouth Rocks he has cockerel (see illustration) that took first prize at the poultry exhibition at Cincinnati, January, 1904, scored 94½ points by Judge Theo. Hewes, who said that as he was not yet fully matured, that he thought that at the next exhibition this bird would score 2 points more and he would then be the highest scored White Plymouth Rock in the world. To give you some idea of the value of a first-prize bird of this variety, will state that a couple of years ago $400 was offered and refused for a prize winning cockerel at Chicago, while another first-prize cock and six females, seven birds in all, were sold for $500. This was probably the highest price ever received for seven birds of the Plymouth Rock family.

Mr. Bloom has been offered $5 a setting for eggs from his prize winning pen of White Rocks, but refused to sell, as he will hatch and raise them all for himself this year and next fall he will have plenty of stock and eggs for sale.

Mr. Bloom also has several pens of White Wyandottes imported from In-

Adolph J. Bloom, the Chileno Valley capitalist. Owner of several dairy and poultry farms. The principal one described in this issue comprises 775 acres of land and there is besides the large herd of thoroughbred Jersey cows, over 11,000 fowls on the place. Should Mr. Bloom establish the broiler plant at Cedar Grove Park, Petaluma, he will then be the proprietor of the most poultry and the largest poultry farms in the world. Mr. Bloom buys Coulson's Egg Food and Coulson's Chick Food by the carload—350 sacks at a time.

ON A. J. BLOOM'S POULTRY FARM.

And a few thousand chickens came to meet us, for they all knew that Coulson made good feeds for poultry (Coulson's Egg Food for hens). And over the hills they come, a perfect stream of chickens, for they all wanted to pay their compliments to the maker of Coulson's Egg Food.

A PRIZE WINNER.
One of A. J. Bloom's White Plymouth Rocks. The 1st prize cockerel at Cincinnati Jan. 1904. Scored 94½ points by Judge Theo. Hewes.

diana and Massachusttes. During the month of March one pen of four hens (see illustration) laid 88 eggs in 22 days or an egg every day from each hen for 22 days. The White Wyandottes in the eastern States are the most popular birds and all the large Eastern poultry plants say that the White Wyandottes are the most profitable for they make the best broilers for market and are the best layers. Some of them have been known to average over 300 eggs per year per hen, and it was the White Wyandottes that laid the most eggs at the laying contest at Australia a couple of months ago.

Mr. Bloom has a number of outdoor brooders (see illustration) in which he is raising the fancy stock. Then Mr. Bloom took us into a brooder house containing 1000 young chicks 4 days old. These chicks were fed on nothing else but COULSON'S CHICK FOOD and they were as pretty a lot of little chicks as you ever saw (see illustration). This brooder house is divided into two parts, 500 chicks in each part. The first couple of days COULSON'S CHICK FOOD is fed dry and scattered on the floor; then after they have learned to eat, the Coulson's Chick Food is put in long wooden troughs and fed to them six times a day; grain sacks are spread on the floor and changed every day. After the chicks get a week old, Coulson's Chick Food is moistened with milk and fed in a crumbly state and they are fed 4 or 5 times a day. (Some people take Coulson's Chick Food and put it a big pan, moisten it a little, then put it in the oven for about 20 minutes and bake it; then you can crumble it up and feed it to the chicks.)

The little chicks are fed on Coulson's Chick Food until they are about 8 weeks old, then after that they can be fed on Coulson's Balanced Ration Egg Food the same as the hens.

There are quite a number of brooder houses of different sizes on this place. One brooder house is 80 feet long and it housed about 2000 chicks that were then about 5 weeks old. The incubator house contained 8 incubators, capacity about 3500 eggs, and they hatch out about 3000 chicks at a time. These machines are set three or four times this season so they will hatch out about 10,000 chicks, besides about 1500 ducks.

After the chicks get to be 8 or 10 weeks old the young roosters are sent to market and the pullets are put up in the colony houses (see illustration) where they are fed on Coulson's Balanced Ration Egg Food once a day and whole wheat twice a day. When we went out into one of the fields where some of the laying hens are kept, all the hens commenced to run toward us and clear down the valley and around the bend was a whole regiment of hens and a few thousand chickens came running to meet us, for they all knew that Coulson made good feeds for poultry (especially Coulson's Egg Food for hens) and up the valley and over the hills they came, a perfect stream of chickens, for they all wanted to pay their compliments to the maker of Coulson's Egg Food.

Once a day the 5,000 laying hens are fed on Coulson's Balanced Ration Egg Food, about 4 sacks of Coulson's Egg Food is dumped into a big feed box and it is stirred up with about 25 gallons of skim milk from Bloom Creamery. Then the feeding wagon hauls it out to the hens and at each colony of 200 hens a couple of big

(Continued on Page 478)

90 lbs. in every sack

There is Money in Poultry if They Are Fed Right

Use Coulson's Chick Food for Little Chicks

and

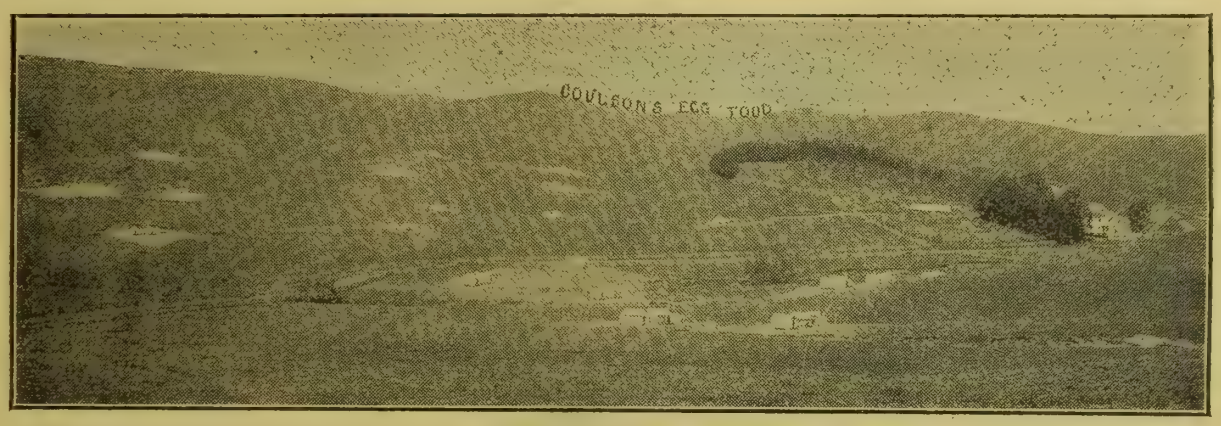
Coulson's Egg Food for Laying Hens

and Success is Yours

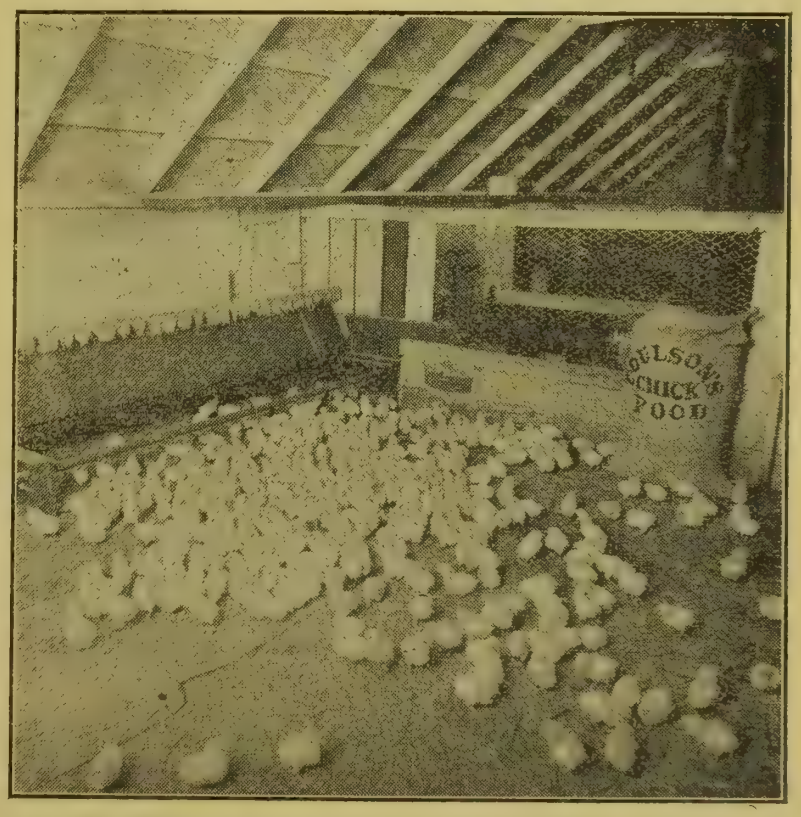
90 lbs. in every sack

One of the pens of White Wyandottes imported from Massachusetts, 1 cock and 4 hens. These four hens laid 88 eggs in 22 consecutive days last month, that is, each hen laid an egg every day for 22 days in succession.

Do you feed Coulson's Egg Food?



Part view of A. J. Bloom's Poultry Farm, showing some poultry houses not shown in panorama view. There are 21 colonies of laying hens shown here and 200 hens in each colony. They consume many sacks of Coulson's Balanced Ration Egg Food.



Interior of one of the brooder houses on A. J. Bloom's poultry farm, showing 500 little chicks four days old that are being raised on Coulson's Chick Food. There are 500 more on the other side of the partition in this same house. Notice the nice, healthy appearance of the chicks.

Mr. Bloom says Coulson's Chick Food is positively the best food for little chicks. Mr. Bloom has tried all kinds of Chick Food from all over the United States, he having plenty of money, has never hestitated in buying any kinds of feeds that were good for chicks, no matter what the price, and after experimenting with all kinds of Chick Feeds, Mr. Bloom now feeds Coulson's Chick Food. Mr. Bloom says that there is no doubt about it. Coulson's Chick Food beats them all. Coulson's Chick Food keeps the chicks in the healthiest condition and raises the most and nicest, largest chicks.

Five outdoor brooders containing thorough-bred chicks from prize-winning stock, about 60 chicks in each brooder.

Some White Plymouth Rocks, some White Wyandottes and some Light Brahmas.

Coulson's Chick Food makes prize winners.

THE NIGHT GANG.

De night gang wuk on de railroad track—
  Heah dem hammahs ringin'!
De tinlamps flahe en de wicks buhn black,
  En de derrick chains am swingin'.
De leadah he staht det chantin' song,
En he know each man will pass it 'long
Mah neighboh he pass et 'long to me;
  "Ho-he!
    Ho-hi!
      Ho he!"

When de white man ram dem rivets in
  Each bone ache in de socket;
But Sam he wuk wid a happy grin
  En a brown flack in his pocket.
Now de section boss he mak his trip,
En while he's away Ah take mah nip,
En dem Ah'm busy as Ah kin be!
  "Ho-he!
    Ho-hi!
      Ho he!"

De night gang wuk til de red sunrise
  En den drop pick en hammah;
En de flat cah roll across de ties
  En all abohd we clammeh.
Den stop at de grog-house on de way
En spen' six bits ob mah hahd wuk's pay,
En de day gang dey pick up de key;
  "Ho-he!
    Ho-hi!
      Ho he!"

—Victor A. Hermann, in Puck.

In Partnership.

Grandfather Brown, who walked with two canes, and 11-year-old Leslie were great chums.

On the Brown place was a "live" spring, where the water bubbled up merrily, and from which the overflow was sparkling and dancing down to the brook at the foot of the slope. One day grandfather stopped at the spring and, reaching down with one of his canes, tried to touch a small turtle that was sunning itself on a shelving rock; but before the cane reached it the turtle slipped off into the water with a splash. As he rose painfully to an upright position, grandfather looked about with a reminiscent air.

"John an' me used to have good times around here," he said, musingly, "To think of the trout we raised in this spring. Seems like 't was only yesterday."

"Raised trout?" queried Leslie, skeptically.

"Yes; we were boys then. John was your great uncle—died more'n sixty years ago. Long time, isn't it?"

"But how did you raise them, grandfather?" persisted Leslie.

"Oh, just caught them in the brook with nets and put them in the spring; then we stopped up the outlet with wire nettin', so they couldn't get out. Used to feed them on grasshoppers an' bugs an' things. Time an' time ag'in I've been to Si Hopkins, the butcher, for chunks o' liver an' such meat as he'd give away. My, but didn't they eat."

The next day the sun came out bright and warm, and after breakfast grandfather proposed a walk.

Leslie was standing demurely at the spring when he caught up with her, and he was about to chide her for running away, when his glance fell upon the water.

"Little trout," he ejaculated, wonderingly, "an hundreds o' them! Land sakes, child, where did they come from?"

"I s'pose the freshet brought 'em down," Leslie answered, gleefully. "Anyway, I found them here and shut them in. See, grandfather," pointing eagerly to a piece of wire netting placed clumsily in the outlet of the spring.

"Yes; I see, well, I de-clare. You're a keen one. Mebbe I can fix that nettin' a bit for ye, though. But what ye goin' to do with them, Leslie—raise them?"

"Yes; you an' I—in partnership, you know."

"So we be, so we be, in partnership," he assented. "I guess you an' me will make a pretty sound firm, eh, Leslie? What I can't do in catchin' grasshoppers I'll make up in givin' advice. But s'pose we fix this wire door first."

As the weeks went by, fish breeding became one of their regular occupations, and it was a question which one of them derived the most pleasure from the task. By the next spring many of the trout were 4 or 5 inches in length.

Before the summer was over the story of Leslie's trout began to get about the neighborhood, and there were many visitors who wished to see the spring. Not far away was a summer resort and one day a gentleman drove in and asked to see the trout. It was near feeding time and as he stood by and watched them spring from the water to catch the bits of meat thrown them, he explained that he had a small pond on his place which he wished to stock with trout.

"Your fish seem to be strong and healthy," he said, briskly, as they walked along to the house. "I am anxious to get good stock, and if you can spare me a few dozen I will be glad to pay you fifty cents for each of them."

Fifty cents! Even grandfather's mild, blue eyes opened wider than usual. at the offer. But only for a moment; then he regained control of himself and gravely closed the bargain.

And what do you suppose they did with the money? Why, enlarged the spring and had a smaller one dug, near by, which was to be fed by the old ones. Then they remodeled the outlet and caught more fish, and went into the business in earnest. "For I b'lieve there's money in it," said Grandfather Brown, sagely. "Leastwise, I hear trout's wuth a dollar a pound at the hotels now, an' in my day they wan't scasely wuth givin' away."

Then there came a "make-believe" far-off look into his eyes and he said, just as though Leslie were not there to hear, "Some o' these days a little girl I know will want a sure 'nough good education, and this money will come in handy."—Woman's World.

A FATAL AND FOOLISH ECONOMY.

It takes years for some of us to learn the art of true economy and also to learn that valuable lesson that thrift in the expenditure of strength is as wise as in the spending of money. There is an economy that is fatal and also foolish, but when a charming old lady told me this during my first days of housekeeping I wondered what she meant. But the longer I live I know she was right. For one to decrease their household expenses, make up their minds to cook, wash and iron so as to save money, often times overworking themselves, the result is doctors and drug bills, to say nothing of having an invalid wife and mother to look after and no one at the head of affairs.

Thrift in expenditure means intelligence and thought. It is advisable for a housewife to provide herself with every needful convenience in her kitchen that can be found. This is true economy. It is a pleasure to cook in a well-arranged kitchen. Money is never wasted in purchasing labor-saving aids of real merit. It is just wonderful to see how much quicker you can get a meal in such a kitchen. It is poor policy to load your kitchen down with utensils never used, and is work increased. A healthful, clean kitchen is necessary to our well being, also to have plenty of nice tea towels and dish-cloths and never let them sour or get soiled. Wash them out daily in a soft warm suds of pearline and sun and dry them out of doors.

—Mrs. S. J. Henton.

TAMENESS OF WILD ANIMALS.

In an interesting article in the Times Prof. Otto Nordenskjold dwells on the tameness of the wild creatures found furthest south in the Antarctic ocean. The ship had already voyaged beyond the usual limits of the sealing vessels, into the region where man has scarcely ever shown his face, and there, on the edge of the ice pack, were seals so time that they allowed themselves to be stroked and scratched, and penguins so bold that they tried to hustle the sailors out of their breeding grounds, as if they were only other penguins trespassing. This was only what might have been expected by any one who had read the stories of the first voyagers to the limits of the inhabited world. The animals do not fear man because they have never known him or suffered injury from him. But the degrees of fear, mistrust, neutrality or confidence shown by wild animals which for ages have been in contact with civilized man are various, and evidently depend on something more than accident. Judging from their attitude toward men when they see him for the first time, we must suppose that if they all "started fair" they would all remain without fear. But it is curious to note how easily, after unknown generations of mistrust, they will dismiss this feeling if once they are convinced that his intentions are honorable. In some Indian States ruled by princes who maintain the strict law against taking animal life which their descent and religion prescribe, the attitude of some of the wildest animals toward the inhabitants of a progressive city full of big banking firms and blessed with railway stations may be affected in a very striking manner. Some years ago the black buck antelopes in Jeypore were as tame as, and even tamer than, park deer. They would lie down and sleep on the slopes of railway embankments or beside the line, and not even move when the trains passed. Sometimes they might be seen lying almost under the windows of large country palaces. They, with the deer and wild swine, so completely lost sight of the fact that they were not as good as their human neighbors, that leave had to be obtained to kill the wild boars to save the crops. The religiously protected monkeys in other parts of India are equally indifferent to man, though from their consciousness of being a public nuisance they are naturally not on friendly terms with him.—London Spectator.

Anderson, the center of the Shasta county prune belt, is to have better facilities for handling the crop, which last year aggregated 2000 tons and yielded the growers $120,000. A fruit-evaporating plant is to be erected. It will be thoroughly modern throughout, containing a large evaporator.

You want to know how to get my lamp-chimneys.

(1) Your grocer sells them, if he is fit to be your grocer; may be he don't.

(2) If you'll write me, I'll send you my Index; that tells everything.

MACBETH, Pittsburgh.

Nobby Sack Suits

The new loose-cut sacks, designed for men who want to keep a little ahead of the procession, are either very swell or the reverse—depends on how they're tailored. Ours will bear the most critical inspection of men who have the custom-tailor habit—the quality of the cloths, the character of the cut, the careful, painstaking tailoring are above reproach.

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RECIPES

Eat Little, but Have That Little Good

FRUIT SHORT-CAKES AND DUMPLINGS.

Delicious Desserts for Spring.

The thought of appetizing fruit short-cakes and dumplings that are to be enjoyed when the berries and fresh fruits appear, makes one long to hurry through the interval of time between the winter dearth and the plenty of early summer. In fact the spring days, before the first berries and cherries ripen, seem the most trying to the cook perplexed concerning the preparation of appetizing desserts.

There are appetizing currant dumplings, and various fruit short-cakes that may be enjoyed now, however, if one understands how to prepare light and tempting pastry for the baking and the boiling, and knows how to make the most of canned fruit and dried currants.

Thinly sliced peaches, slices of rich canned pears, the cherries that have been canned as nearly whole as possible, will take their turn in these fruit short-cakes before the stewed rhubarb of early spring is thus utilized, to be followed by the juicy berries. And if carefully prepared, the short-cake of canned peaches, sliced and sugared, will now rival the strawberry short-cakes that are to be enjoyed later.

To make the sweetened dough for these cakes, add to a quart of flour three teaspoonfuls of baking powder, one of salt, and two tablespoonfuls of sugar. Sift twice to mix thoroughly. Rub into this two tablespoonfuls of butter if the dough is to be made with cream, or four if milk is used; a cupful and a half of liquid is required. Mix the dough rapidly, and place it upon a well-floured board.

Have ready three buttered pie plates, and cutting the dough into six parts, roll each to fit the plates; place one piece on each plate, spread it lightly with soft butter, then add another layer the same size. Bake at once, ten minutes being sufficient if the oven is at proper heat. When done, separate the double cakes, add the fruit while hot, and serve immediately. If it is to be served cold, put in the fruit about fifteen minutes before it is required.

For three cakes, three pints of fruit will be required; when fresh fruit is used, sugar should be sprinkled on the fruit at least half an hour before it is required. Sugared fruit should be kept in a cool place. Arrange the fruit between and on top of each pair of short-cakes, and, if liked, a cupful of whipped cream may be spread over the top. If sour milk, buttermilk or sour cream is used in making the dough, omit baking powder, and use a teaspoonful of baking soda.

Old-time currant dumpling, boiled in a cloth, is seldom seen on our tables, and yet it is generally a favorite, and will be found just the thing to vary the desserts at this season. It is made thus:

Into a pint of flour, sifted with a heaping teaspoonful of baking powder and a half teaspoonful of salt, rub a large teacupful of finely-chopped beef suet and the same of currants, washed thoroughly and dried in a cloth; now with a fork stir into this enough very cold water (about a third of a cupful) to make a rather soft biscuit dough. Put this into a floured muslin cloth, allowing room to swell; tie firmly with stout string, and drop it into a potful of boiling water; cook for three hours, and do not let the water stop boiling for a moment; replenish from the hot tea-kettle.

It should turn out a light, appetizing-looking ball. Half a cupful of granulated sugar may be rubbed through the flour if liked; if not, the soft white sauce should be well sweetened. Flavor the latter with nutmeg or vanilla.

This same batter may be used for the most delicious of dumplings or boiled puddings when filled with fresh, ripe cherries later in the season; although the batter should be made somewhat stiffer in this case to allow for the juice of the cherries. It is also the favorite recipe for the huckleberry puddings of summer. But just now one can be very well content simply with the old-fashioned currant dumpling, served with the favorite sweet sauce.—P. W. Humphreys, in Country Gentleman.

* * *

Salad Cups.—Handsome green or red peppers make pretty salad cups. Cut off the small ends of the peppers and trim the large ends until the cup stands firmly. Remove the seeds and fill with cabbage, celery and apple, or other salad, mixed with mayonnaise, and serve on lettuce leaves. Red cups on white lettuce leaves are delightful.

HOW TO REMOVE FRECKLES.

At a luncheon party in the hotel restaurant the other day, a party of women just back from the country were discussing the subject of complexions. One of them was badly freckled, and consequently in quite an unhappy frame of mind.

"Now, look at Mary," she exclaimed in an aggrieved tone. "I don't see a spot of any kind on her skin, and yet she used to freckle just as much as I do."

Mary met the sustained and curious glances of her friends with a smile, and hastened to say:

"I don't mind letting you in the secret. It's nothing but a faithful devotion to the soap and water cure."

"You mean face steaming?" asked one.

"Not at all. This is a newer remedy. I wonder you haven't heard of it, for all the complexion specialists are advising it.

"Use water just as hot as your face will comfortably bear. Make a lather of the soap and scrub with the camel's hair brush fully five minutes. Nothing less than five minutes will answer, and be sure to time yourself, or you will imagine the time is up when you have been scrubbing about one minute.

"After the scrubbing rinse off the soap with very hot water, using plenty of it. Then begin rinsing with cold water, and continue that until the skin feels quite cool. That is all.

"To get the best effects, the face must be scrubbed both night and morning for several weeks. Lately I have taken the scrubbing only in the morning, but I kept it up faithfully twice a day for nearly three months.

"The trouble with some women is, they expect almost instantaneous results and, becoming discouraged after a week or two, give up the treatment altogether. Judging from my own experience, I am firmly convinced that soap and water is the best complexion lotion on the market, the very best freckle eradicator extant. And I mean to stick to it."—Cheerful Moments.

SPRING CLEANING.

Some housewives make such hard work of house-cleaning that they drive themselves into nervous prostration, and their husbands into the saloon. There is no real reason why spring house-cleaning should be made such a boog-aboo as many women make it. Of course, it is nervous work, we all know that, but it can be handled with system, not overdone, and done with care without exhausting the strength and patience of the housewife and the temper of the family. We know a good woman who, annually, turns her house topsyturvey for two weeks, while she cleans the house, polishes the furniture, waxes the floor and does a hundred little things necessary to housekeeping and house-cleaning, but she always makes herself sick, her family uncomfortable and her husband gets drunk (to add flavor to the situation) before the annual season of tearing up the house is over. If this woman, and all others, would adopt the plan of cleaning one room a month, the halls every week, the windows once a month, there would be no such cyclone of mops, brushes, brooms and soap needed.

Take plenty of time to clean each room, and clean but one room at a time, thus will the household not be terrorized by a cyclone of dust, dirt and household implements, nor will the family be made ill from damp floors and consequent colds. A woman who has had many years experience as a housewife makes the following pertinent suggestions in the Farmers' Tribune about the care of bedding and clothes at this season of the year: "All the heaviest winter clothing should be washed or cleaned, mended and packed away as soon as it is changed for thinner, and when the final cleaning comes it can all be done in short order. The summer clothing should be unpacked and thoroughly aired for several days before it is to be put on, so it will not have a close musty smell which clothing that has been packed is apt to have.

The heavy bedding and blankets may be cleaned and put away in the big chests or boxes reserved for them. A list of the contents of each box, bag, chest or barrel should be plainly written and put in the receptacle, either tacked to the lid or to the outside of the box, etc. In this way much valuable time may be saved if an article is wanted in a hurry at any time.

A box should be kept purposely in which to put rolls of flannel, and strips of linen or cotton, this box should be plainly labeled as to contents and then when anything is needed a stranger could go to the box and get what is wanted, thus saving valuable time which might mean life sometimes."

SMOOTHING IT OVER.

At last he neared his street corner and arose to leave the car.

As he did so he lifted his hat to the stern-faced matron who had been dangling from a strap and scowling down at him.

"Madam," he cautiously said, "I would have given you my seat long ago if I hadn't recognized the fact that you are much younger and stronger than myself. Good night."

And the sour-faced matron nodded and blushed and smiled.—Cleveland Plain Dealer.

EGGSASPERATING.

Jimmy—"A man had two eggs for breakfast every morning. He never stole them; he never bought them; he never had them given him, and he never kept fowls. How did he get them?

Jemmy—"Give it up."

Jimmy—"He kept ducks."—April Woman's Home Companion.

Pieces of old flannel, merino and canton flannel underwear cannot be excelled for household cleaning purposes.

AGRICULTURAL EDUCATION.

We have really not yet begun the development of agriculture in this country. Those of us connected with our agricultural colleges see this perhaps as others may not. All the newer subjects relative to agriculture have had to force themselves into our schools and colleges. Now in nearly all the States these agricultural subjects are taught. In the next 10 years you will see greater development in agricultural education than ever before. The emphasis has been placed on the growing of larger crops, but in the next 10 years the emphasis will be placed on the means by which the farmers may be reached.

We can train men's minds by the study of the growth of crops on the farm as we can by the study of Latin and Greek, although I would not have the one displace the other. We are now taking hold of those country-life problems. I believe that the greatest field yet remaining is the field of agriculture. The problem of the future is the rural school, and in this the grange is vitally interested. I am a member of a number of organizations, but if I could be in one only, and work for one only, it would be the grange.—Dr. L. H. Bailey, at National Grange.

"Who has the right time?"
The man who has
ELGIN
TIME
every time

Every Elgin Watch is fully guaranteed. All Jewelers have Elgin Watches. "Timemakers and Timekeepers," an illustrated history of the watch, sent free upon request to

ELGIN NATIONAL WATCH CO., ELGIN, ILL.

Millions of Chicks are Raised on Coulson's Chick Food

Where the 2500 pullets are kept on A. J. Bloom's Poultry Farm. 25 poultry houses not shown in other views. The chicks are fed on COULSON'S CHICK FOOD until two months old, then the pullets are taken to these houses where they remain until mature hens, and are fed one meal a day of Coulson's Balanced Ration Egg Food.

shovelfuls are put into feed troughs and the hens dive into and eat it with great relish and all day long you can hear the hens singing their egg song and toward night the four egg gatherers go out and bring in all told nearly 3000 fresh laid eggs.

It costs Mr. Bloom less than $7 a day for Coulson's Egg Food and about $8 a day for wheat and other grains, all told about $15 a day to feed the hens and about $5 a day to feed the little chicks. Suppose we figure 3000 eggs, or 250 dozen at 20 cents per dozen, which would be $50. Now figure the profits for yourself; 12 cents or 15 cents worth of Coulson's Egg Food and 15 cents worth of wheat will feed 100 hens one day. 100 hens will produce daily 75 cents worth of eggs a day of they are fed right. It takes good feed to make eggs; to know what to feed a flock of hens or chicks requires study and attention. Coulson's Foods fills all requirements. But when hens are shelling out eggs at a lively gait and their actions show that they want more feed, then give it to them, but Coulson's Egg Food is so rich and nutritious it does not take as much of it as other feeds. When you can get 500 or 600 eggs out of a sack of Coulson's Egg Food, you had not ought to kick about the price, but some do, but they belong to the class that never is satisfied with anything.

To get the best results from Coulson's Egg Food you must feed it steady every day and results will come gradually, It's the man who sticks to it that gets success.

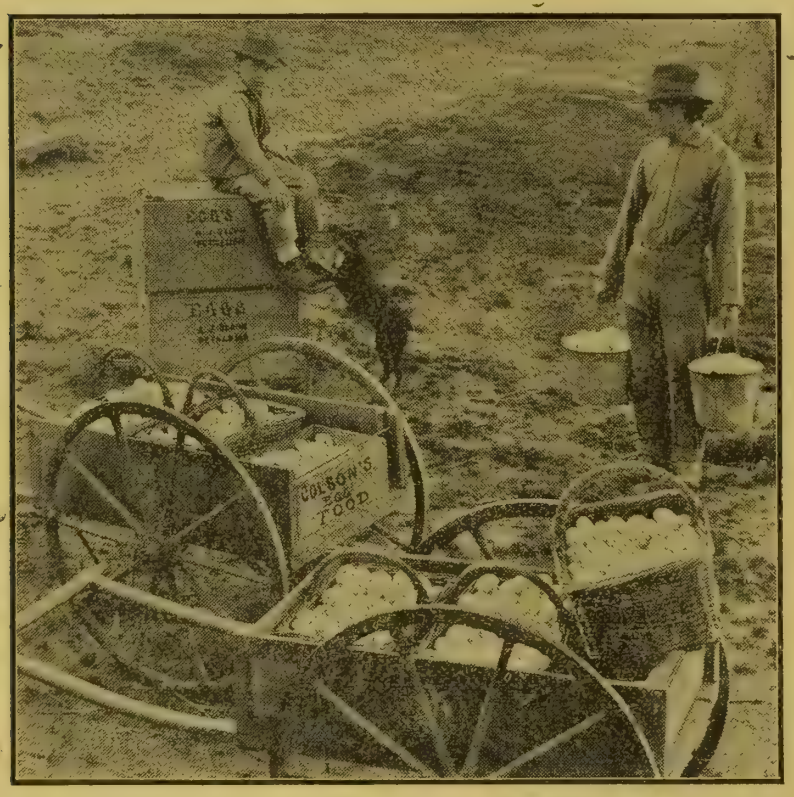
In raising finest chicks or getting the most eggs from the hens, feed is half the trick. Profit by experience of others. The most successful poultrymen are those who are using Coulson's Foods—Coulson's Egg Food and Coulson's Chick Food. If you are going to give these feeds a trial, be sensible and feed it for 1 year, keep an egg record and be convinced. A short trial is never satisfactory.

Coulson's Egg Food costs more per ton than other feeds, but it being richer it takes less of it. Price $1.65 a sack, 20 sack lots, $1.55 a sack. Price of Coulson's Chick Food, $2.20 a sack, 5 sack lots, $2.10 a sack. These are factory prices. Prices in other towns will be more according to freight. 200 stores in California selling the feed.

There may be other feeds that look like Coulson's, but it is the getting there qualities that counts and it is Coulson's that you want to get.

Send for samples to

A. R. Coulson Co., Inc.,
PETALUMA, CAL.



Results from feeding Coulson's Egg Food. Part of one day's gathering on A. J. Bloom's Poultry Farm, showing over 2000 fresh laid eggs. There are nearly 400 eggs in each basket (5 baskets, 1 box, and 2 buckets full shown here and more to come).

Four sacks of Coulson's Egg Food stirred up with skim milk feeds 5000 hens. Value of this much Coulso's Egg Food is less than $7.00 and this, with about $8.00 worth of wheat for the evening meal makes $15.00 a day for feed for the hens. Value of 3000 eggs at 20c a dozen, $50.00. Figure the profits.

(To be continued.)

Los Angeles Markets.

Los Angeles ,May 12, 1904.

The local markets have been quite active during the past week. Nearly all commodities have shown strength. This is not due to the lack of supplies but the increasing demand which has been in evidence since the first of the month. Local dealers are well pleased with the present situation, and reports are current that the flattering conditions will continue to prevail for a month at least.

Butter.

It is reported that the Creamery Board of Trade again fixed the price of butter at 45 cents. This is not affirmed by authoritative persons however, and quotations are as heretofore quoted. There is an increasing demand and dealers are said to be using considerable storage goods.

B. of T. Cream', 2-lb roll		40
Valley creamery, fancy..	40	
Coast Creamery		37½
Cooking, per lb		18

Cheese.

Cal. and 3 lb. hand	18	
Cal. Downey and Anchor	16	
Northern	14	15
Swiss	21	
Imported do	28	

Eggs.

The price of fresh ranch eggs is still on the rise, and is expected to go higher in the next few days. The scarcity still prevails in the east, and the demand is depending almost entire on the local production.

Fresh ranch	23	24
Store, case count	20	21

Poultry.

Hens and young stocks are being supplied more freely and a lower quotation is noted this week. Demand is good and it is thought the present prices will hold until the fryers begin to come in more plentiful.

Spring chickens, per lb..	18	20
Hens, No. 1, per lb	13	14
Ducks, per lb	14	15
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

The local live stock quotations remain nominal. Grazing is good and stock is reported to be doing well, especially in the central and northern sections. Prices range as follows:

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head..	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Potatoes are a shade lower in price. A few new Early Rose were offered to the trade this week, but it is reported that it will be some time before new stocks will be offered in a quantity.

River, per cwt		2 00
Oregon, do		1 90
Local Sweets, white		3 25
Early Rose, new		02½
Pinkeye, do		2 00
White		02
Nevada Pearls, do		2 00

Vegetables; Mixed.

There seems to be no lack of any of the vegetable varieties. Large quantities are being marketed, but are reported to be consumed in a manner quite satisfactory to local dealers.

Onion, Silver Skin		03
Beets, per 100 lbs		1 25
Cabbages, do		1 00
Green Peas	02	03
Lettuce, per sack		40
Tomatoes, 25 lb crate	75	1 25
Hubbard squash, per ton		20 00
Celery		35
Carrots, per sack		75
String Beans		04
Wax Beans		05
Chiles, green, per lb		08
Rhubarb		1 25
Asparagus		05

CITRUS FRUITS; FRESH

Fancy oranges, 126s, bx		2 25
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 00	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		2 00
Four ½ tier, do	1 50	
Pears, Winter Nellis, lb		05
Strawberries	04	05
Loquats		06
Cherries, 10 lb. box		1 50

Fruits; Dried.

Apples, evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	07½	08
Peanuts, California	07½	08

HONEY.

White strain, per lb		07
Light amber, do		06
Comb, water white		15
Do, light amber		13

Hay and Grain.

The following prices remain as heretofore quoted. The new crop is coming in more freely and the quality is reported to be of the best.

Alfalfa	9 00	11 00
Tame Oat		12 00
Barley hay	10 00	13 00
Wheat hay		12 00
Oats	1 25	1 35
Wheat	1 45	1 55
Barley	1 15	1 17½
Corn	1 25	1 30

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 30	
Bran	1 30	
Feed Corn Meal		1 50
Middlings		1 45
Cracked Corn		1 45
Oil Cake Meal		1 85
Chicken Wheat		1 65
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, May 4, 1904.

Dairy.

San Francisco, May 13.

The market displayed a steady tone for the upper grades of Creamery Butter yesterday, and it was difficult to secure fancy marks under 19c, although general offerings were liberal and in some quarters there was a disposition to press business by accepting fractional concessions.

BUTTER—Per lb:		
Creamery, extras	19	
Creamery, good to fancy	18	@18½
Dairy, extra	17	@17½
Dairy, choice,	15	@16
Store	14	

No material change occurred in the price of cheese, the market remaining as quoted last week.

CHEESE—Per lb:		
California Creamery, mild new, extra	10	@11

California Creamery, new mild, choice ..... 8 @ 9
Young America ..... 10 @11½
Eastern, New York Cream, Cheddars and flats, new..15 @16

Eggs and Poultry.

An easier market was reported for Eggs because of the hot weather. Speculators showed little disposition to store and as a result supplies on the open market were heavier and dealers were inclined to force sales by cutting values.

EGGS—Per doz:
Ranch, selected large 21
Ranch, good to choice 20
Store ....18 @19
California storage ....Nominal
Eastern ....Nominal

The demand for poultry is not equal to the supply. No special change from last week's quotations:

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $7.50@8.50; Fryers, $6@7; Broilers, large, $3.50@4.50; small, $2@3; Hens, small, $4.50@5; large, $6@6.50; Ducks, per doz., old, $5@5.50; young, $6@6.50; Live Turkeys, per lb., 15@17c; Geese, per pair, $1.50@2; Goslings, $2.50@3.50; Pigeons, per doz., old, $1.25 @1.50; Squabs, $1.50@2.

Fruits and Vegetables.

Under the influence of the hot wave trading in Citrus Fruits was animated yesterday and the free supplies of Oranges available were quite well cared for at sustained prices.

DECIDUOUS FRUITS—Apples, per box, $1 @2.50.

Cherries—Per box, $1@1.50.

Apricots—Per crate, $1.75@2.50.

BERRIES—Per chest: Strawberries, Longworths, $5@8; large varieties, $3.50@5.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.50@2.25; choice, $1.35@1.75; standard, $1@1.25, according to size; Seedlings $1@1.25; Lemons, $1.25@2.75; Grape Fruit, $1 @2; Tangerines, $1@1.25; Limes, $5@6.

VEGETABLES—Asparagus, per lb., 4@7c; Tomatoes, per box or crate, southern, $1.50 @1.75; do, Mexican, $1.50@2; Rhubarb, per box, 25@65c; Green Peppers, per lb., Los Angeles, 6@10c; Mexican, 12½@17½c; Dried Peppers, Stockton, 5@8c; Southern 8@12½c; String Beans, per lb., 7@8; Wax, 7@9c; Green Peas, per sack, $1@1.50; Garden Peas, per lb., 2½@3c; Egg Plant, per lb., 10@20c; Summer Squash, per box, $1@1.50; Cucumbers, hothouse, per doz., 50c@$1.25; Garlic, per lb., nominal; Dried Okra, per lb., 12½c; Marrowfat Squash, jobbing at 1@2c per lb.

POTATOES—Per ctl; River Burbanks, $1.40@1.65; early rose, $1.40@ 1.60; river reds, $1@1.10; garnet chile, $1.65@1.85; Oregon Burbanks, $1.60@ 1.80; new potatoes, per lb, 2@3c.

Dried Fruits, Nuts, Etc.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are per lb, as follows:

Apples—Evaporated, 4½@6c; Sun dried, 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice, 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 5¾@6½c; fancy, 7@7½c; peeled, in boxes, 11@14c.

Pears—Bartlett, fancy, 11½c; choice, 9½@ 10c.

Hops.

The price for new crop is 25@27½c per lb., according to quality.

Beans.

The market for Beans continues firm, with stocks light and general trading of moderate volume. Pinks are rather the firmest offering on the list under a limited call for shipping purposes. Limas are somewhat stronger, prices in the growing section being advanced 5c. Seeds are without quotable change, business continuing quiet, but seasonable.

BEANS—Prices per ctl: Large White, $2.40 @2.65; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.20@3.35; Red, $4.25@4.50; Pink, $3.40 @3.60; Bayo, $2.40@2.60; Blackeyes, $2.05@ $2.25; Kidneys, $4.75@5.

Live Stock.

Sheep are quoted at a further fractional decline under heavy offerings, while the market for other kinds of Live Stock maintains a steady position at unchanged prices.

CATTLE—No. 1 Hay fed Native Steers, 9@ 9½c; second quality, 8@8½c; thin Steers, 7@7½c.

CALVES—Light, per lb., 5@5½c, gross weight: heavy, 4¼@4¾c, gross weight.

SHEEP—Per lb.: Unshorn Wethers, No. 1, 4½c gross weight; Shorn, 3½@4c; Ewes, No. 1, unshorn, 4@4¼c, gross weight; shorn, 3¼ @3½c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $12@15; Wheat and Oat, $12@14; Oat, $10@13.50; Barley, $10@12; Clover, nominal; Alfalfa, $9@11.50; Stock, nominal.

STRAW—Good to choice, per bale, 60@70c.

FEED CORN MEAL—Choice grades, per ton, $31@31.50.

GROUND BARLEY—Per ton, $23@24.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.80@ 5.15 per bbl.; Bakers' Extra, $4.60@4.80; Oregon and Washington, $3.65@4.50.

WHEAT—No. 1 shipping, per ctl., $1.37; choice, $1.50; White Milling, good to choice, $1.42.

BARLEY—Choice No. 1 feed, $1.06¼ @1.12; off grades, $1.03¾@1.05; brewing No. 1, $1.12½@1.17½; Chevalier, nominal.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.40@1.45; small, do, nominal; White, $1.37½@1.45; Eastern, $1.32½ @1.40.

OATS—Good to choice White, $1.27½@1.40; Red, $1.30@1.35; Black, nominal at $1.27½@ $1.40.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

CHICAGO, May 12, 1904.—The wheat market opened fairly steady this morning, notwithstanding the bullishness of the government crop reports.

Cash quotations were as follows: Flour was dull and steady; No. 2 spring wheat, 90@95; No. 3, 87@93; No. 2 red, $1.04@1.06; No. 2 corn, 49; No. 2 yellow, 52; No. 2 oats, 41¼@41⅝; No. 3 white, 40½@44; No. 2 rye, 71@73; good feeding barley, 35@38; fair to choice malting 45@56; No. 1 flax seed, 1.01½; No. 1 northwestern, $1.09½; prime timothy seed, $2.90; mess pork, per bbl., 11.10@11.12½; lard, per 100 lbs, 6.37½@6.40; short ribs, sides (loose), $6.00@6.12½; short clear sides (boxed), $6.25@ 6.50; clover, contract grade, $1.75.

Dried Fruits, Nuts, Etc.

NEW YORK, May 12.—The market for evaporated apples shows no quotable change, holders still being confident, while the volume of demand is small. Common are quoted at 4@5¼; prime, 5⅝@5¾; choice, 6¼@ 6½; fancy, 7@7½. Prunes show some improvement in tone, in the absence of selling pressure, and ruled about steady, at prices ranging from 3@5¾, according to grade. Apricots are quiet, but, not being urged for sale, show a generally firm undertone. Choice are quoted at 9½@10; extra choice at 10¼@ 10½;, and fancy 11@13. Peaches are in practically the same position as of late. Choice are quoted 7¼@7½; extra choice, 7¾@8, and fancy 9@9½.

CITRUS MARKETS

AUCTIONS.

The citrus market, on the whole, may be said to be improving. Prices for good fruit show an upward tendency, with a stronger feeling. As an index of the market Thursday's dispatches reported a strong and active market, with prices higher on all sizes, including 80-126. The dispatch referred to is as follows: "The market was strong and active, with prices higher on all sizes, including 80-126s. Large sizes are arriving in excellent condition. Today's sale was called the best of the season. From the store there is an active market, with prices firmer, but without quotable advance. Sicily lemons advanced about 40 cents at the first sale this week."

NEW YORK CITY, May 6th, 1904.

La Mesa, Riv., Riverside, $2.10; Blue Globe, $2.25, $2.35; Red Globe, $2.10, $2.30; Red Mtn., $2.00; Standard, $1.80.
Iris, D. M. Ex., Duarte, $2.55; Violet, $2.05; $1.95.
Coyote, O. K. Ex., Upland, $1.90.
Puritan, S. B. Ex., Rialto, $1.90.
Tiger, S. B. Ex., Colton, $2.25.
Palm Tree, A. H. Ex., Prenda, $1.45.
Pointer, A. C. G. Ex., Azusa, $1.45.
Old Mission, Chapmans, $2.65, $2.05; Golden Eagle, $2.10.
Atlas, C. C. U., Redlands, $1.55; Tiger Head, $1.85; Camellia, $1.75, $1.65; Monogram, $1.65, $1.75, $1.60; Chief, $1.90; Herald, $1.70; Thoroughbred, $1.75.
Yosemite, C. C. U., Highland, $1.80.
Volunteer, S. A. Ex., No. Pomona, $1.80; Selects, $1.40.
Selects, S. A. Ex., San Dimas, $1.30.
S. S. (Med. Sweets), S. S. Ex., Anahiem, $1.70.
Cloister, Rubidoux Ft. Co., $2.25; La France, J. S. Kuns, $1.70.

BOSTON, Mass., May 6th, 1904.

Selects, S. A. Ex., No. Pomona, $1.80.
Selects, S. A. Ex., San Dimas, $1.30.
Royal, Q. C. Ex., Corona, $1.40.
White "C," Cov. Ex., Covina, $1.80.
Tunnel, S. T. Ex., Fernando, $2.15; Urchin, $1.95.
Fancy, Riv., C. B. Sta., $1.80; Navajo, $1.55.
Ruth (fancy), Rubidoux Ft. Co., $2.10
Golden Harvest, $1.90.
Bronco, C. C. U., Redlands, $2.15; Herald, $1.90; Chief, $2.00; Clover, $1.95; Rose, $2.25.
Carnation, C. C. U., C. B. Sta., $1.95.
Trumpeter, C. C. U., San Marino, $1.65.
Swan, S. B. Ex., Redlands, $2.25.
Red Mtn., Riv., Riverside, $2.05.
Mtn. Chief, C. C. U., $1.90.
Humming B. (Seeds), Riv., Riverside, $1.60.

SWEETS.

I. X. L., Benchley Ft. Co., $2.00.
Independent, Corson, Highland, $2.15, $1.80.
Swan, (Budded), S. B. Ex., Redlands, $2.00; Royal K. (Blood), $2.20.

PHILADELPHIA, Pa., May 6th, 1904.

Stag, A. C. G. Ex., Glendora, $2.60; Pointer, $1.55.
Pointer, A. C. G. Ex., Lateen Spur, $1.55.
Select, S. A. Ex., San Dimas, $1.25.
Fancy, Riv., C. B. Sta., $1.75; Navajo, $1.60.
Golden Rule, Riv., Riverside, $2.10.
Jewel, S. A. Ex., Pomona, $1.85.
Owl, O. K. Ex., Upland, $2.00.
Violet, D. M. Ex., Duarte, $1.75.

NAVELS.

Our Favorite, C. C. U., Highgrove, $2.10; National, T. I., $2.40; Capitol, T. I., $2.20.
Perfection, C. C. U., Allesandro, $2.10; Golden Rod, $2.00.
Sapphire, C. C. U., Covina, $1.20; Amethyst, $1.55.
Blossom, C. C. U., Redlands, .95; Clover, $1.75, $1.80, $1.70.
Mission B. (Bud.), C. C. U., Arcadia, $1.95.

NEW YORK CITY, May 9th, 1904.

NAVELS.

Blue Globe, Riv., Riverside, $2.50,; Red Globe, $2.00, $2.35; La Mesa, $2.30; Fancy, $2.15; Navajo, $1.95, $1.90; Pepper, $2.15.
Blue Print, Riv., Pachappa, $2.20; Red Print, $1.90; Silver Medal, $1.70.
Coyote, O. G. Ex., Upland, $2.20; Owl, $1.95.
Jewel, S. A. Ex., Pomona, $1.50, $1.75, $1.85.
Pointer, A. C. G. Ex., Charter, $1.80.
V. V., Cov., Azusa Ave., $1.95; V. V. (T. I.), $1.95.
Old Mission, Chapmans', $2.00, $2.40.
Golden Eagle, Rubidoux Ft. Co., $2.05.
Sunflower, C. C. U., Redlands, $2.30; Herald, $1.90; Clover, $2.05; Tiger Head, $1.85; Monogram, $2.00, $2.05, $1.90.
Capitol, C. C. U., Highgrove, $2.30; Carnation, $2.55.
Fox, C. C. U., W. Duarte, $2.15; Bunker Hill, $1.90.
Union, C. C. U., Monrovia, $2.15; Liberty Bell, $1.85.
Amethyst, C. C. U., Covina, $1.50; Sapphire, $1.65, $1.90.
Stork, S. A. Ex., Claremont, $1.85; Select, $1.80.
Select, S. A. Ex., San Dimas, $1.70.
Gold Buckle, S. B. Ex., E. Highland, $2.20.
Three Fates, A. L. King, $2.15, $2.20; $2.20; Valla Vista, $2.00.

BLOODS.

King, S. A. Ex., Claremont, $2.10.
Pet Malta, S. A. Ex., San Dimas, $2.05; Select Malta, $1.80.
Carnation, C. C. U., C. B. Sta., $2.05; Columbia (R.), $2.05.
Pointer (Med.), A. C. G., Charter Oak, $2.20.
Three Fates, A. L. King, $2.05; Three Fates, (Sweets), $1.90.
Carnation (Jaffas), C. C. U., C. B. Sta., $2.10.

TANGERINES.

Pointer, A. C. G., Charter Oak, $2.65.
Blue Globe, Riv., Riverside, $3.00.
Harmony, S. A. Ex., San Dimas, $3.15.
Mixed, O. K. Ex., Upland, $2.50.

PHILADELPHIA, Pa., May 7th, 1904.

NAVELS.

Cloister, Rubidoux Ft. Co., $2.35.
Highland (Seedlings), O. R., Highland F. G. A., $1.60.
Golden Pheasant, N. Bailey & Son, $2.20.
Hunter, A. C. G. Ex., Glendora, $1.85; Stag, $2.50, $2.30; Pointer, $1.75, $2.00.
Violet, D. M. Ex., W. Duarte, $1.95.
Violet, D. M. Ex., Duarte, $1.95.
Primrose, D. M. Ex., W. Duarte, $1.85.
Lincoln, Riv., Pachappa, $1.90; Navajo, $1.75.
La Mesa, Riv., Riverside, $2.20.
Echo, S. T. Ex., Pasadena, $2.05; Arroyo, $1.90.
Jewel, S. A. Ex., Pomona, $1.55.
Lion Head, C. C. U., Redlands, $2.00; Tiger Head, $1.75; Clover, $1.80.
Amethyst, C. C. U., Covina, $1.50; Sapphire, $1.60, $1.55.
Mission Bells, C. C. U., Chapman, $1.75.
Perfection, C. C. U., Allesandro, $2.15; Golden Rod, $2.05.
Ben Hur, S. B. Ex., Redlands, $2.00.
Owl, O. K., W. Cucamonga, $2.00.
Tally Ho., S. B. Ex., Rialto, $1.70.
Quail, O. K. Ex., Upland, $2.00.

BOSTON, Mass., May 9th, 1904.

NAVELS.

La Mesa, Riv., Riverside, $2.10; Red Globe, $1.90.
Ben Hur, S. B. Ex., Redlands, $1.55, $1.80, Swan, $1.85.
Thistle, S. B. Ex., Highland, $2.20.
Coyote, O. K. Ex., Ontario, $2.15.
Volunteer, S. A. Ex., No. Pomona, $1.55; Foothill, $1.80; Select, $1.15; Morning Glory, $1.20.
Bronco, C. C. U., Redlands, $2.15; Thoroughbred, $1.65; Herald, $1.85; Tiger Head, $1.95; Chief, $2.15.
Anemone, C. C. U., No. Pomona, $1.60.
Cream, C. C. U., Rialto, $2.40; Minnehaha, $2.10.
Mountain Chief, C. C. U., $1.85.
Golden Harvest, Rubidoux Ft. Co., $2.15; Mountain Chief, $1.55.

BOSTON, Mass., May 10th, 1904.

NAVELS.

Blue Globe, Riv., Riverside, $2.35; La Mesa, $2.30; Golden Rule, $2.05.
Owl, O. K. Ex., Upland, $2.25.
Pointer, A. C. G., Azusa, $1.55, $1.45; Pointer, T. I., $2.20; Red Shield, $1.85.
Select, S. A. Ex., Pomona, $2.00.
Select, S. A. Ex., San Dimas, $1.60.
Swan, S. B. Ex., Redlands, $2.30.
Gypsy Queen, C. C. U., Riverside, $2.25.
Rialto, C. C. U., Rialto, $2.35; Gondolier, $2.25; Cream, $1.60; Minnehaha, $1.50.
Bronco, C. C. U., Redlands, $2.00; Herald, $1.90; Clover, $1.75; Chief, $2.15.

SAN FRANCISCO, Cal., May 10th, 1904.

Sunflower, C. C. U., Redlands, $1.75; Monogram, $1.30; Snowball, $1.05.
Azusa Stag, A. C. G. Ex., Glendora, $1.95; Azusa Pointer, $1.30; Hunter, $1.05; Glendora Stag, $2.10; Plain, $1.30; Glendora Pointer, $1.00.
Anemone, C. C. U., No. Pomona, $1.40; Lighthouse, .95.
Squirrel, A. H. Ex., Prenda, $1.20.
Arroyo, S. T. Ex., Pasadena, .90.
Stork, S. A. Ex., Claremont, $1.35; Selects, $1.20.
Indian Hill, S. A. Ex., No. Pomona, $2.10; Volunteer, $1.60; Foothills, $1.25; Selects, $1.15; Bowl, $1.40; Morning Glory, $1.10.
Parrot, S. A. Ex., Pomona, $1.50; Jewel, $1.40; Carlo, $1.15.
Pet., S. A. Ex., San Dimas, $1.50; Selects, .85; Bowl, $1.05.
Sunflower, C. C. U., Redlands, $1.80; Monogram, $1.05.

NEW YORK CITY, May 10th, 1904.

NAVELS.

La Mesa, Riv., Riverside, $2.45; Golden Rule, $2.05.
Fancy, Riv., C. B. Sta., $2.15, $2.05; Navajo, $1.95, $1.75.
Uncle Sam, Riv., Pachappa, $2.25; Fiesta, $2.15.
Iris, D. M. Ex., Duarte, $2.60.
Red Shield, A. C. G. Ex., Azusa, $1.95.
Orange Bowl, S. T. Ex., Fullerton, $1.95.
Coyote, O. K. Ex., Ontario, $2.05.
Highlander, C. C. U., W. Highland, $2.40.
Old Mission, Chapmans', $3.05, $2.15; Golden Eagle, $1.65.
Alta Mesa, Corson, Highland, $2.55.
La France, J. S. Kuns, $1.85.
Chief, C. C. U., Redlands, $2.20; Clover, $1.85, $1.80; Rose, $2.40; Tiger Head, $1.80; Monogram, $1.75; Atlas, $1.90.
Sapphire, C. C. U., Covina, $1.90, $1.65; Amethyst, $1.70, $1.55.
Cream, C. C. U., Rialto, $2.45; Minnehaha, $2.00.
Geranium, C. C. U., W. Highland, $2.05.
Orange Prince, Collins Ft. Co., $2.55; Orchard Queen, $2.25.
Cloister, Rubidoux Ft. Co., $2.65.
Young America, P. & McKeavitt, $2.30; Standard, $1.55.

Total to date this season, 20,129 cars, of which 1299 cars are lemons.
Total to same date last season, 15,670 cars, of which 1378 were lemons.

THE TIME TO SEPARATE.

The best possible time to separate cream from milk is when first drawn and while the animal heat is still retained. If allowed to cool and then be heated to the proper temperature for skimming, complete separation is more difficult to attain. The farm separator is in just the position to save all loss by taking out the cream before the milk cools or becomes acid.

The best types of farm separators are so simple that a child can take them apart and put them together, and run them without any danger, if proper care is given to oiling the fast-running parts and keeping the bowl clean.

A farm separator will run for years with practically no repairs, so the first cost is the only expense. This is paid back to the user at least every two years he runs it, in actual saving of time and travel, to say nothing of the greater convenience and better quality of skim-milk. Any dairyman who keeps five cows and lives a mile or more from a factory can afford to buy a separator. It will be a positive saving to him.—F. L. Woodhouse.

The school census just taken at Hollywood shows that there are no negro, Mongolian or Indian children at Hollywood, only one deaf child, and only one not born in the United States.

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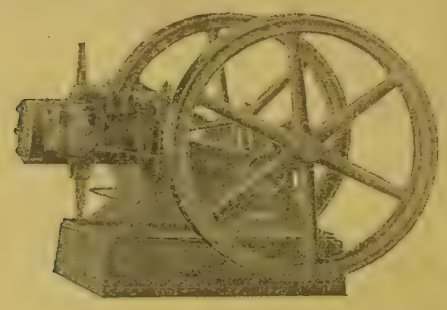

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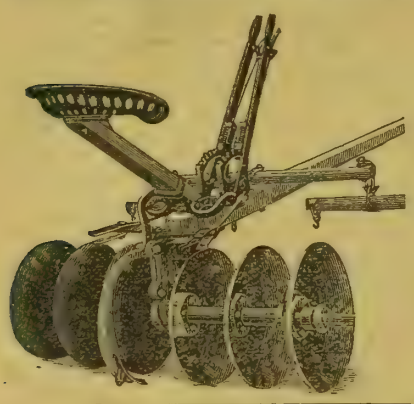

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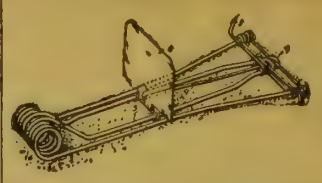

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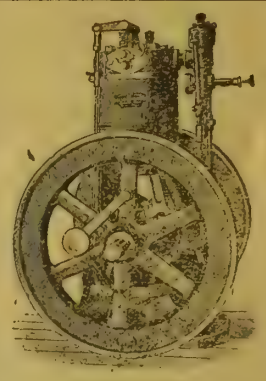

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California Cultivator

LOS ANGELES SAN FRANCISCO

MAY 20, 1904

IN THIS ISSUE: Home Manufacture of Grape Juice; Water Users Contract With the Government; Moulds and Mildew; Fancy Poultry From a Utility Standpoint; Asparagus Culture; Cost of Oranges.

A Mountain Lake in California.

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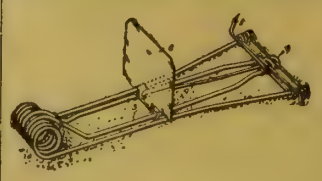

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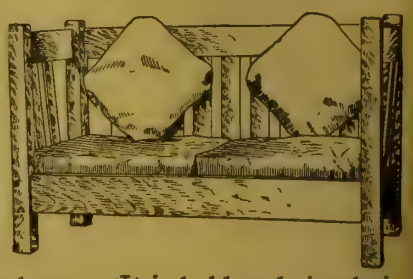

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 21 LOS ANGELES, CAL., FRIDAY, MAY 20, 1904 Subscription $1 a Year

Home Manufacture of Unfermented Grape Juice

By George C. Husmann, Expert in Charge of Viticultural Investigations, Bureau of Plant Industry, U. S. Department of Agriculture.

Unfermented grape juice has no doubt been used ever since wine has been made from the grape. The following practical suggestions will enable housewives to put up unfermented juice at the time of the fruit harvest, and thus to utilize much fruit that is now annually lost through inability to preserve it in the fresh state. In this form it is a pleasant, wholesome drink and food well adapted to home use. On some farms enough such preventable wastes occur almost every year to largely reduce the possible profits, or even to cause failure to meet the running expenses of the farm. By preventing these wastes an unprofitable farm may often be made profitable.

* * *

Historical Notes.—Galenius, the Greek physician and writer says (A. D. 131): "A good many Asiatic wines were stored in bottles which were hung in the corner of fireplaces, where, by evaporation, they became dry." This process was called "fumarium."

The Greeks had two kinds of wine, "protoplon," or first juice of the grape before pressing, and "denterion," or pressed juice. The Romans called them "vinum primarium" and "vinum secondarium." Some of them drank the juice before fermentation had started, and called it "mustum." After the must or juice had been through a heating process (called "reduction" nowadays), they called it "frutum," and when, after long heating, it had been reduced to one-half or one-third its original volume, they called it "sapa." This was used by the Romans on their bread and was equivalent to what we now call grape syrup.

In Europe physicians often send their patients to the wine-growing districts during vintage time to take daily rations of the fresh juice as it comes from the crusher. This, however, restricts its use to a brief season of the year and to the immediate vicinity of the vineyards, or to individuals who are yet strong enough to undertake the journey. Of late years repeated efforts have been made to prevent the juice from fermenting and to preserve it in vessels of such size and shape as can be easily transported, thus rendering its use possible at all times of the year. Until recently its use has been almost exclusively restricted to juice for medicinal or sacramental purposes. Unrestricted and general use has been retarded through lack of knowledge of the principles underlying the process of manufacture. This lack of knowledge and of the necessary skill in applying it has resulted in many failures, thus rendering the production of a good article uncertain and expensive.

Fig. 1.—Cloth and press.

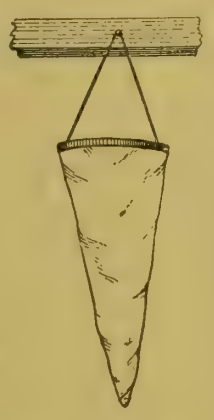

Fig. 2.—Cloth or felt filter.

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Composition of the Grape.—The grape contains 12 to 28 per cent of sugar, about 2 to 3 per cent of nitrogenous substances, and some tartaric and malic acids. The skins contain tannin, cream of tartar and coloring matter. The seeds contain tannin, starchy matters and fat. The stems contain tannin, diverse acids and mucilaginous matter. The value of the juice made from any grape is determined by the relative proportion and composition of these various parts.

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Causes of Fermentation.—It is well known that grapes and other fruits when ripe have the invisible spores of various fungi, yeasts (ferments), and bacteria adhering to their skins and stems. When dry these spores are inert, but after the grapes are crushed and the spores are immersed in the juice they become active and begin to multiply. If the juice is warm, the changes take place rapidly; if, on the other hand, it is cool, the change is slower. But in either case, if left alone, the organisms increase until the juice ferments. The most favorable temperature for fermentation is between 65 degrees F. and 88 degrees F. Cold checks, but does not kill, the ferment. This fermentation, now commonly called the eliptic yeast, changes the sugar in the grape to alcohol and carbonic acid gas, and is the leading factor in converting must into wine. Hence it will be readily seen that to keep grape juice sweet fermentation must be prevented, and to be salable the product must be clear, bright, and attractive.

* * *

Methods of Preventing Fermentation.—Fermentation may be prevented in either of two ways:

(1) By chemical methods, which consist in the addition of germ poisons or antiseptics, which either kill the germs or prevent their growth. Of these the principal ones used are salicylic, sulphurous, boracic, and benzoic acids, formalin, fluorides, and saccharin. As these substances are generally regarded as adulterants and injurious, their use is not recommended.

(2) Mechanical means are sometimes employed. The germs are either removed by some mechanical means, such as filtering, or a centrifugal apparatus, or they are destroyed by heat, electricity, etc. Of these, heat has so far been found most practical.

When a liquid is heated to a sufficiently high temperature all organisms in it are killed. The degree of heat required, however, differs not only with the particular kind of organism, but also with the liquid in which they are held. Time is also a factor. An organism may not be killed if heated to a high temperature and quickly cooled. If, however, the temperature is kept at the same high degree for some time, it will be killed. It must also be borne in mind that fungi, including yeasts, exist in the growing and the resting states, the latter being much more resistant than the former. A characteristic of the fungi and their spores is their great resistance to heat when dry. In this state they can be heated to 212 degrees F. without being killed. The spores of the common mold are even more resistant. This should be well considered in sterilizing bottles and corks, which should be steamed to 240 degrees F. for at least fifteen minutes.

Practical tests so far made indicate that grape juice can be safely sterilized at from 165 to 176 degrees F. At this temperature the flavor is hardly changed, while at a temperature much above 200 degrees it is. This is an important point, as the flavor and quality of the product depend on it.

This being intended for the farmer or the housewife only, the writer refers such readers as desire to go into the manufacture of grape juice in a systematic manner for commercial purposes to Bulletin 24, Bureau of Plant Industry, Department of Agriculture, on the same subject, this publication treating only of methods that can be applied in every home.

Home Manufacture.—Use only clean, sound, well-ripened but not over-ripe grapes. If an ordinary cider mill is at hand, it may be used for crushing and pressing, or the grapes may be crushed and pressed with the hands. If a light-colored juice is desired, put the crushed grapes in a cleanly washed cloth sack and tie up. Then either hang up securely and twist it or let two persons take hold, one on each end of the sack (fig. 1), and twist until the greater part of the juice is

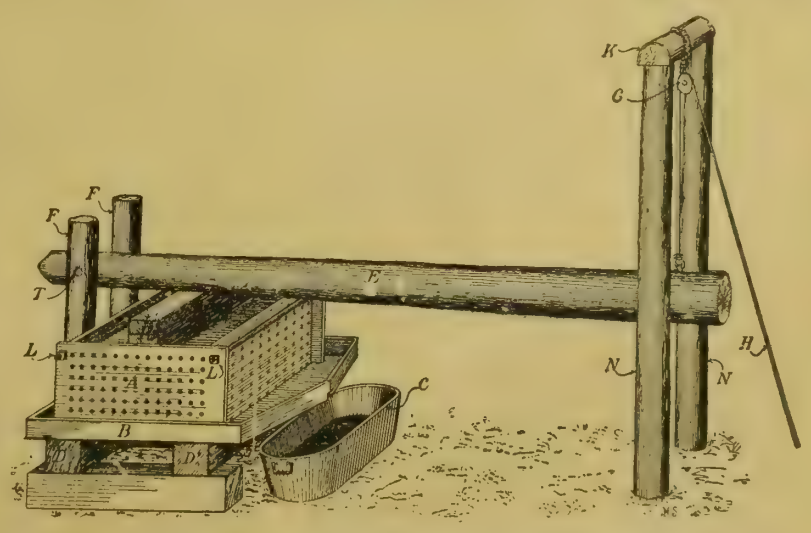

Fig 3.—Home-made lever press. A, Press basket. B, Press bottom. C, Tub. D, Skids. E, Lever. F, Upright posts. G, Block and tackle. T, Lever bolt. I, Press block.

(Continued on Page 487)

BY J. W. MILLS, ONTARIO, CAL.

COW PEAS.

Editor Cultivator: Will you please tell me what the southern cow pea is and if it is different from the black-eyed pea?—W. O. G., Whittier.

The southern cow peas are really beans and there are a great many varieties of them. The black eyed bean or pea is one of them. They have been tried to some extent in California for a green manuring crop but have not given entire satisfaction on account of their not forming the nodules on the roots. These will come in time and then there shou'd be no objection to them as a green manuring crop. If soil is taken from land in which they have grown nodules on the roots before and mixed with the seed before planting, you should get a good growth of the nitrifing germs.

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GRAFTING WAX.

Editor Cultivator: Will you please inform me through the Cultivator how to make grafting wax?—J. J. D., Nordhoff.

One pound of mutton tallow, two pounds of beeswax and four pounds of resin will make a good wax. Heat slowly and bring to a boil. Oil the hands well, pour the hot wax into a tub of warm water and pull like candy for a few minutes. This toughens the wax. In applying at grafting time, keep the wax just warm enough to apply with a brush.

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THINNING APRICOTS.

We have been requested to give some instructions on apricot thinning. It is late for that subject, though we might say that the proper way to thin the apricot is to prune it so that it will not have to be hand thinned. Trees with short stocky branches and open centers will have the fruit close to the main branches which will give ample support and good size to the fruit even though it be very thick on the trees.

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ASPARAGUS CULTURE.

Editor Cultivator: Will you please give through the Cultivator some instructions as to how asparagus beds should be started and cared for.—Subscriber.

The seed should be planted in rows about two feet apart if a large quantity is to be raised, so that it may be cultivated with a horse. The seed may be planted thick so that the roots may intermingle. They should be kept growing till late in the fall when they are transplanted into the field.

Where a single row is to be planted for home use, the plants may be placed 18 inches apart in the rows. For field culture the rows may be from six to ten feet apart and the plants from two to four feet apart each way in the rows, according to the soil and climate. The plants should be placed in the ground so that the crowns are a foot below the surface as they will gradually grow towards the surface. As the plants grow, fill in around the stems by cultivation until the ground is level at the end of the season.

As the plants are still not strong enough to force themselves up through the one foot of soil during the first season in some situations, it is best to plow a shallow furrow over the rows before they start and work the dirt into it as before. This process will give early asparagus if other conditions are favorable as it allows the sun to get near the crowns and warm them up. Where irrigation is practiced it is best to withhold the water during the spring and late winter so as to allow the ground to warm up. This is the experience of the best growers.

* * *

DODDER.

Editor Cultivator: I enclose a weed that grows in the alfalfa and is called "love vine." Will you kindly tell me something about it, whether a piece will grow without root if left in the field; also what is the best way to get rid of it?—N. E. M., Santa Ana.

The sample of weed that you send is dodder growing on an alfalfa stalk. This weed comes into the fields by having the seed sown with the alfalfa seed, which it slightly resembles. There are several varieties of this weed. It starts by the seed germinating in the ground, just as the alfalfa does, but after it has taken hold of the alfalfa stalks, or whatever it grows upon, it becomes severed from the root and its entire nourishment is derived from the plant upon which it is growing. If a piece of it be dropped in the field, it will wilt at once and not grow again on the alfalfa. If a small piece of the stem containing a bud remains attached to the stump of alfalfa after being cut, it will grow and spread rapidly. If, however, the alfalfa stump be covered an inch or two with soil, the love vine will die and the alfalfa will come up through. Burning will kill the vine but it will kill the alfalfa roots. If the smallest portion of the vine remains above ground, it will grow again. It is therefore important that the stumps be cut off close to the ground. The vine will cling close to the crowns of the alfalfa.

DEATH TO THE SCALE.

Horticultural Commissioner Pease is soon to receive a number of colonies of the Scutellista fro mSan Diego for distribution among the orange groves of this county. The dry weather in San Diego has made the parasite rather scarce at the present time, but it is expected that before long there will be a good number. The San Diego commissioners wish Mr. Pease to send them some Aspidiotaphagus Citrinus, which is considered quite successful in that county for the yellow scale, but here its success has not been sufficient to warrant any enthusiasm. Commissioner Pease has just returned from an investigation of nursery stock through the country and finds that white scale is prevalent everywhere. This is not an alarming pest as the commissioner has a very successful parasite for it, which is keeping it down in numbers.—San Bernardino Times-Index.

THOMAS PROSPHATE POWDER.

This phosphatic manure, although only introduced some twenty years ago, has made immense strides, owing to its cheapness, and to the good effects attending its application under suitable circumstances. Questions frequently asked by those not acquainted with this fertilizer are: What is the best time of application? Is it suitable to all soils? How much should be used?

Before replying to these questions, it might be well to examine the form in which phosphoric acid exists in basic slag. The phosphoric acid of basic slag is insoluble in water, but is attacked and dissolved by the acid juices excreted by plant roots, and it is thus made assimilable. This insolubility of the phosphoric acid in water is an advantage, as none of it can be washed into the subsoil by the action of rain. So far as method of application is concerned, this double property—insolubility in water and immediate solution by the acid juice of the roots—marks the difference between slag and the majority of other phosphatic manures. The action of the soluble phosphoric acid, as it exists in superphosphates, is dependent on the previous transformation of the lime and alumina compounds which are insoluble in water. The very finest divided state in the phosphoric acid of superphosphates is disseminated in the surface soil, owing to diffusion, is, in all probability, the chief cause of its great efficiency on many soils, but as a rule superphosphates are comparatively brief in their action, one, or, at most, two years. Also, they are used in small doses, but at short intervals, which is not always the case as regards basic slag. The practical consequence of the immediate assimilability of the phosphate of slag, together with its insolubility in water, are that it is impossible to employ it at any season of the year, and the amount applied may be, as compared with other manures, somewhat higher. These two points deserve further consideration. When first, in 1884, basic slag was introduced as a manure, little was known of its method of action. Before it could be utilized by crops, it was supposed that the phosphoric acid it contained ought to be in contact for a certain length of time with the soil, and there undergo certain chemical changes in order to make it soluble and assimilable. Thus basic slag was chiefly used as an autumn manuring, for the use of the spring sowings. Careful study of the chemical properties of the slag on the one hand, and practical experience on the other, have shown that there is no necessity for this manure to be in contact with the soil for any length of time before it is utilisable by plants. There is, therefore, no necessity to apply slag that is intended to benefit spring sown crops in autumn to top dressing for grass lands, the best results are obtained when the slag is applied from, say December to the end of March, while for root crops it may be sown within a few days previous to seeding. Here, then, we have an answer to the first question. The time at which basic slag may be applied is a matter of relatively little importance; it can, thanks to its direct assimilability, be applied at any time. Its application in autumn, in view of the spring crops, is of advantage only as assuring a more perfect distribution through the soil. For such crops as permanent or temporary grass, clover, lucerne, etc., top dressings of basic slag give excellent results. The fertilizer being, as we have said, quite insoluble in water, can only exert its action on such plants as the above when it comes into contact with the superficial rootlets; the rains mechanically wash the phosphate down, and this is why this manure gives good results when wet weather follows its application. As regards the second question—to what soils is basic slag best suited—the answer is implied in the preceding. The phosphate of basic slag being directly utilisable by plants, its efficiency is assured on all soils that are in want of phosphoric acid. There are, however, certain soils on which its effects are more marked than on others, and these are sandy soils and those poor in lime. Besides phosphoric acid, slag contains a considerable amount of lime, part of which is in a free state. Hence it happens that on such soil the slag is valuable not only for its phosphoric acid, but for its lime.—Freer Thonger, in East Anglian Times, Ipswich, Eng.

GETTING RID OF GOPHERS.

The following inquiry has been received from one of our subscribers:

"Will you please inform me through your columns the best way to get rid of pocket gophers?"

If there is one pest that is more annoying than another it is, in our opinion, the pocket gopher. This is not due so much to the amount of vegetation destroyed by this little pest as to the inconvenience caused by the mounds which are thrown up by them. There are three general methods for bringing about their destruction, namely: Trapping, poisoning and killing with gas. The trapping method involves considerable labor and not a little skill. They may be easily poisoned by digging down where a fresh mound has been thrown up and placing in the hole a potato that has been treated with a small quantity of strychnine. Afterwards place a board over the hole and cover it with soil so as to exclude light. Invariably this will do the work. The third method mentioned is coming into practice very rapidly, and involves the use of a liquid known as carbon bisulphide. In this case it is necessary to dig down into a fresh wound, saturate a small rag or sponge with the liquid and place along the line of the gopher's channel. Then darken the hole by covering with board and soil so as to keep out light and also prevent the vapors of the liquid from escaping. Inquiry of those who have adopted this method if killing gophers has revealed the fact that it is exceedingly successful. The gophers are stupefied at first and do not seem to make any effort to escape from the gas's deadly influence. Carbon bisulphide is an inexpensive liquid that may be obtained at almost any drug store. It is not considered a deadly poison, but instead a powerful disinfectant.—The Homestead.

Representative commercial bodies of San Francisco are moving in the matter of better dock facilities. It is proposed to ask theState to issue $2,000,000 in bonds secured by mortgage on the property on the water front. Emphasis was laid on the fact that the people outside of San Francisco are not to be called upon to repay any part of this proposed loan, as the receipts from wharf dues at prevailing rates will pay the interest on the debt and create a sinking fund for the redemption of the bonds on maturity.

Since 1890 San Jose has grown from 21,500 to 35,000 population.

LAND AND WATER

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

WATER USERS CONTRACT WITH THE GOVERNMENT.

The stockholders of the Water Users' Association of the Salt River valley recently ratified by ballot, after the manner of an ordinary election, a contract that had been tentatively made between representatives of the association and the Secretary of the Interior, one provision having been that the contract did not become binding until so ratified by the stockholders. As this is the first contract of this kind that has been made with the Government under the irrigation act, its form is of interest to the whole country. The irrigation act provided that when a majority of the payments for the reservoir rights were made that the management of the distribution of the water should be left to an association of the water users under the irrigation works. The people of the Salt River valley anticipated this provision several years by forming an association of those who wished to obtain reservoir rights when the water from the reservoir became available for use. The owners of about 200,000 acres of land joined this organization that is now entering into a contract with the government regarding the payment for the irrigation works and the method of distribution of the waters therefrom. The contract provides that only those who are now, or may become, members of this association shall be accepted as entrymen or applicants for rights to the use of water impounded, developed or the supply of which is or may be regulated or controlled by the proposed irrigation works. A second and important provision is that the aggregate amounts of such rights to be issued shall in no event exceed the number of acres of land capable of irrigation by the total amount of water available for the purpose, the Secretary of the Interior being the one who is to determine upon due and expert consideration of all available data the acreage to be included. The payments for the reservoir rights are to be divided into ten equal annual installments, the first to be payable at the time of the completion of the proposed reservoir, and the cost to be apportioned equally per acre among those requiring irrigation rights. The Water Users' Association is to be the agent for the prompt collection and payment of these annual installments to the receiver of the local land office. In the distribution of water the priority of right by reason of priority of appropriation is to be applied to all present vested rights, and the permanent appurtenances of all rights to the use of water to the lands for which they were appropriated or acquired is to be applicable to vested as well as to subsequently acquired rights. The basis of an appropriation of water for irrigation is the ownership or occupancy of land, and beneficial use is to be the measure and limit of the right to the use of water.

The principles governing the distribution of water are those for whose establishment the writer, by publications and otherwise, has labored for years. It is therefore a source of much gratification that not only by court decisions, but by government contract, they are to become the established principles of the Territory. When work was begun along this line some years ago, those who wished to make merchandise of the vital liquid were apparently so thoroughly entrenched that the cause of the farmers seemed hopeless. But at last right is prevailing, and the farmers are becoming more and more secure in their acquired rights.

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MOULDS AND MILDEWS.

All may not be aware that the familiar moulds and mildews are forms of vegetation, but they are as truly plants as are grasses and trees. The fact that they make their appearance so quickly in such a variety of places furnishes some ground for the more or less prevalent belief that they do not pass through a regular course of development after the manner of common plants, but, nevertheless, their life history is quite as regular as that of any plants. The layer or mass of vegetation is in most cases composed of long slender filaments that are usually attached to the substances within which they grow by root-like or sucker-like outgrowths.

The moulds and mildews have quite a different method of obtaining their nourishment than do ordinary green plants. Certain groups of plants have succeeded in learning how to feed entirely upon the results of others, having thus no need of the green matter called chlorophyll, they usually do not possess it; and being no longer in need of the light that would be necessary to carry on this process, they are quite as capable of growing in darkness as in full sunlight. They belong to the large class of plants called fungi, the name being a convenient general one to apply to all plants below seed plants that lack chlorophyll, and consequently dependent upon organic matter for food. Fungi that feed upon dead matter, as do many of the moulds and mildews, are called saprophytes, and fungi that feed upon the tissues of living plants or animals are called parasites. One of the most common saprophytic fungi is the mould that so frequently grows upon stale bread, upon fruits and other foods. The individual plants consist of much branched slender filaments, and two different species spread over the surface by two distinct methods. One branches profusely and irregularly, thus forming an interwoven cobweb mass. The other sends out runners after the manner of the strawberry, the mould thus spreading over a surface very much as strawberry plants do. They spread from place to place by means of spores that they produce in great numbers.

Mildews are mostly parasitic fungi that feed upon the leaves, stems and other parts of seed plants, being among the most destructive of all the parasitic plants. The vegetative portion of those called Downey Mildews consists of slender filaments that grow mainly within the tissue of the plants they infest, the branches bearing spores being the only portion that shows above the surface. It is one of these mildews that is so destructive to vineyards in some sections. A related mildew grows within the stems, leaves and tubers of potatoes, causing what is known as "potato rot" and often destroying a large part of the potato crop of an extensive district. The powdery mildews differ from the Downey mildews in spreading over the surface of the plant upon which they grow and sending only suckers within the tissue. They form cobweby, powdery coatings upon a great variety of plants, one species often seriously injuring the leaves and fruit of grapes, another species being injurious to roses, plums and other fruits, and to garden peas.

The growth of moulds and mildews is prevented pricipally in two ways—by destruction of their spores, and by removing the conditions suitable for their growth. The destruction of their spores upon and within dead matter is accomplished best by heat. They will not make their appearance upon sealed fruit, or vegetables that have been sufficiently heated. That some spores endure considerable heat is shown by the frequent appearance of mould upon the surface of canned fruit. However, if proper precautions are taken no mould can grow in such situations. Spores upon living plants are destroyed, or so injured that they will not germinate, by the application of a variety of chemical substances. When once established upon or within the tissues of plants parasitic fungi are very difficult to destroy without destroying the plants upon which they are feeding.

GOVERNMENT WHITEWASH.

The enduring whitewash used in all departments of the Unites States Government where such a preparation is needed is thus made: Take one-half bushel unslacked lime, slack it with boiling water, cover during the process to keep in steam, strain the liquid through a fine sieve or strainer, and add to it a peck of salt previously dissolved in warm water, three pounds of ground rice boiled to a thin paste and stirred in while hot, one-half pound Spanish whiting and one pound glue, previously dissolved by soaking in cold water, and then hanging over a fire in a small pot hung in a larger one filled with water. Add five gallons hot water to the mixture, stir well and let stand a few days covered from dirt. It should be applied hot, for which purpose it can be kept in a portable furnace. The east end of the President's house in Washington is embellished with this brilliant whitewash, and it is used by the Government to whitewash lighthouses. A pint of this mixture, if properly applied, will cover a square yard, and will be almost as serviceable as paint for wood, brick or stone, and is much cheaper than the cheapest paint. A writer in an exchange says: My brother used this same recipe on a new barn in July, 1848. It was used on the rough boards. In 1875 the barn still looked white. I do hope our farmers will try it on their barns, stables and outbuildings. It will add so much to the beauty of the farms.

HOW TO RAISE MUSKMELONS.

The melon requires a deep, warm, sandy loam, well supplied with humus, says the Riverside Enterprise. In comparative tests by the Colorado station of alfalfa sod and croppel land manured with well rotter barnyard manure or bone meal applied in the hill the best results were obtained on the alfalfa sod. In this case the product was nearly doubled, the quality was better, and the ability to resist fungus troubles greater.

Alfalfa sod brought maximum returns, and in turn the melon easily subdued the alfalfa and put the land in splendid condition for succeeding crops. The land is prepared by rather deep plowing, harrowing and leveling. Furrows are then run with shovel plow six to seven feet apart and the seed is planted by the side of the furrow in hills from five to six feet apart in the rows. Planting should be done from the first to the tenth of May.

The carefully selected seed (ten to fifteen to each hill) should be planted not over one inch deep. Seed is germinated by running the irrigation water into the furrows and allowing it to reach the seed by being drawn up through the soil by subirrigation, as it is termed. When the plants have four leaves they are thinned to three in each hill. At this time the permanent irrigating furrows are run and cultivation ceases, except such hoeing as is needed to keep down weeds.

SPINACH.

One of the most valuable vegetables to raise in the garden for general use is spinach. And it is a vegetable which a family cannot well do without. It possesses medical properties which are valuable, besides being excellent as a table food.

"In French kitchens," says Etta S. Wilson in the San Jose Mercury Herald, "it is usually cooked by the quantity and reheated as needed. The story is told of Brillat-Saverin that after his servant had made his thirteenth service of the same spinach he was so enraptured by the result that he declared he would never eat it again unless recooked the same number of times. Like all salads, spinach should be carefully picked over before washing, as dried leaves, grubs and gravel can be more easily dislodged when dry. Then wash and wash, and when you think it is clean wash again. This not alone on account of the discernable grit and dust, but because of the great danger of eating vegetables grown on the ground which have been exposed to contamination from sewage, city waste or garbage unless most thoroughly cleansed. There is a knack in the washing. Having looked over the spinach, shaken it and cut off the stalks, put the leaves in a large pan or tub of water, plunging them up and down to rinse off the sand and allow it to fall to the bottom. Now do not pour off the dirty water, but lift the greens handful by handful out into a second tub of water. This leaves the sand in the bottom of the vessel instead of falling back on the leaves. Repeat this method of careful rinsing three or four times, then pour on fresh water with a small handful of salt added and let them stand until ready to cook."

The Tehama county New Era says: "We grow about everything in Tehama county without irrigation and there has never been a failure of crops. We have never had a period of inflation nor do we want one."

Five hundred and ten students received degrees from the University of California on Commencement day, May 18. Of this number, 116 were from the Colleges of Law, Medicine, Dentistry and Pharmacy, and thirty were recipients of higher degrees.

The Farm and Floral World, published at Birmingham, Ala., is one of the really excellent papers from the Southland. The climatic conditions of that State are much like those of California and the products of the State are also similar to those we have here.

Conducted by PROF. A. J. COOK, Claremont, Cal

CLUB PICNIC.

Plans are being made to have a colossal picnic probably in Live Oak Canyon, Monday, June 6. The following clubs will take part: Glendora, San Dimas, Claremont, Pomona and Cucamonga. The subject will be the Orange Market, and the day will be given to it. We are already promised good speakers and expect a very pleasant and profitable time. Let all plan to come.

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COST OF ORANGES.

Mr. A. Frost, Palermo, and several others ask about Mr. Ware's cheap production of oranges. There is a general desire to know the number of acres cultivated, number of trees per acre, varieties of orange grown, cost and depth of plowing, cost of water and of irrigating per acre, cost and depth of cultivation, cost of fertilizing per acre, cost of pruning, number of boxes per acre, cost of picking, and necessary sundries, as boxes, fire insurance, etc. It is certainly wise to study economy of production. Years of poor markets are sure to come. It behooves every grower to study diligently such questions as how to grow and market at the minimum expense, and at the same time to grow and market the very best fruit that can be grown.

This has led me to secure from Mr. Ware his figures. I am glad to give the data as I have them from Mr. Ware to the readers of the Cultivator. The size of the orange orchard in question is eight acres, and the time on which the average is taken is three years. This does not include the present year. Two-thirds of the trees are Washington Navels, and one-third are Australian Navels. It will be seen that the wages paid have been less than the average paid by growers at the present time. Mr. Ware gives the facts just as they exist, and that is what is called for. The cost of fumigation has been high, but Mr. Ware has now a power sprayer and the cost of fighting scale will be lessened in future. It will be observed also that the cost of fertilization has been high. Stable manure and commercial fertilizers have both been used. Mr. Ware thinks that the land is now in condition so that an expense of $25 per acre in future will be ample to give the best results. Mr. Ware wisely concludes to practice green manuring in future, and will still further reduce expenses, and so he feels that he can pay the higher wages, and still deliver the fruit at the packing house at an expense of $.25 per box. Of course this means that the orchard is matured and in full bearing. Mr. Ware's rule for irrigating, plowing, and cultivating is like that of every good cultivator, to do it when the trees show that they need it, be it more or less often. His aim is to keep the orchard in the best condition. The plowing and cultivating is done with four good horses. Use is made of the three disc plow, and six-foot cultivator, and the depth is as great as the team can stand. Deep cultivating is believed in on the ranch. Mr. Ware says that some of the Placentia growers raise more fruit to the acre than he does, and he feels sure to do it at as small if not at a less cost. Mr. Ware quotes one grower who keeps a close account book, and states that he produced them at $.23 per acre. Mr. Ware thinks, very justly, no doubt, that many growers are making a great mistake in not keeping a full account of their orchard. All should keep as full and as accurate an account as he would if a merchant or in any other business. Frequent inspection of such books is a surprising aid in the daily management of the orchard. This makes it possible, he thinks, when the margin is small to prevent an actual loss if not to secure a profit. Mr. Ware states that a neighbor, close by his orchards, produces on a small orchard, 500 boxes of packed oranges per acre each year, though the trees are not yet in full bearing. He says that the neighbor thinks that the result is in part due to early gathering so that the tree is better able to set the next crop.

* * *

Items of Cost—The following is Mr. Ware's account as he gives it to me: Labor includes plowing, cultivating, hoeing, pruning, picking, delivering, etc. The wages paid are as follows: Horse hire per day for each horse, $.75. Common labor per day, $1.50. Labor for irrigation per day, $2.00. Foreman per month, $60. Cost of labor per acre, $40. Cost of fumigating per acre, $20. Expense for fertilizing per acre, $35. Amount paid for water per acre, $8. The total cost per acre is $103. The average number of packed oranges for three years has been, per acre, 410 boxes. This gives the average cost of production $0.251 per box. The orchard was 10 years old at the beginning of the three years.

* * *

MELON APHIS.

The scare over melon aphis seems very general. W. F. Mehrten, Dinuba, Tulare county, wishes a formula to destroy ants and the black aphis that are destroying his melon vines. He writes, "There comes a little black bug and small green lice, after which come little red ants. The vines curl up and close inspection shows tiny drops of honey dew. The growth seems to stop." This black aphis of the melon is indeed doing much harm this year. The ants are simply there to get the honeydew which the aphids secrete. The ants do not harm, but the aphids are serious pests. They are prodigious sappers. The vines will soon collapse if the aphids have things their own way. I am glad to say that a Braconid fly has attacked this aphid at Glendora as announced last week, and we may hope that we can distribute this and be rid of the aphids without further trouble. I am sorry to find that the Braconid fly is not more widely distributed. I have a large number of the aphids from Glendale, which show no work of the Braconids as yet. I hope that we can get these valuable little parasites at work outside of Glendora. It is hard to give a good remedy for this pest. I should experiment with the distillate spray. I believe that it can be used so as to kill the aphids and yet do no harm to the plants. But we must remember that the little yellow vines are very tender, and so we will have to use the greatest care in its use. I would get a good distillate as recommended in the Cultivator, not use it stronger than 2%, and we must remember that it must be kept thoroughly mixed by violent agitation all the time it is being applied. Some one ought to invent a machine that will work as well in this as do the large power sprayers in the orchard.

* * *

HIVING BEES.

I am asked how to hive bees when they swarm. First it is always best to be well protected by wearing a good bee hat. True bees, before flying forth to swarm, fill themselves stomach full, and when full they are amiable, and not so likely to sting; but the unexpected is always possible, and as the stings are so painful, it is always wise to guard against such evil. A good movable frame hive should be in readiness. No one has any right to keep bees in any other kind of a hive. Put the hive where it is to stand and spread a clean cloth or put a board before it and then use gumption and get all the bees possible at the opening on this board or cloth. They will commence at once to run in, and the work is done. If they light on a limb that can be cut off, as is very often true, then saw the limb off, carefully, so as not to jar the bees, and then carry cluster on limb to hive and by a sudden jerk fell all the bees to the board at the opening of the hive. It is often easy to brush or jar them into a basket and cover at once with a sheet, and then carry and deposit as before. Ingenuity should be used to get the bees from place of clustering to the opening of the hive.

* * *

BEES IN A SEASON OF DROUTH.

In these dry years bees must be kept in food. We may have little or no honey this year, though I have hopes that in some sections we shall get quite a harvest. In case we do not, we must examine the bees often enough to see that they keep in stores. We can feed cheap honey or a thin sugar syrup, as is cheapest. It is well also to keep the entrance nearly closed else there is danger that strong colonies may rob and thus destroy the weaker ones.

* * *

THRIPS OR APHIDS.

M. S. Phillippe, Campbell, asks how the thrip looks and how to kill it. A small insect is killing both leaf and flower buds on the fruit trees. The thrips is very small, hardly more than 1-25 of an inch long. It is very long and slim. When young it has no wings, which usually come later, first as mere stubs. It is usually yellow or black. Distillate spray would kill it. I presume it is an aphid that is harming the buds. If so, read what I have said above. The aphid is flask shaped, and gets larger than the thrips. I wish our correspondents would always send specimens, then I could advise with positiveness.

* * *

CANKER WORM.

Mrs. J. R. Williams, Santa Rosa, complains that the measuring worm is doing serious damage to her orchard. I wish she had sent specimens. I presume this is an invasion of the canker worm. Paris green one pound to 200 gallons, with five lbs. of lime, will kill them. Keep well stirred and put on with force so as to get it on all the leaves.

BREAKING YOUNG HORSES.

The first thing to do when you find a new foal is to take him in your arms, one arm under his breast and the other under his rump and carry him about and into the house and put a pinch of sugar on his tongue, and it is well to give him a pinch of salt once a week at least, until he gets too heavy, and when he gets to be a full grown horse he will never doubt that you are able to take him up and carry him. When he is a fortnight old lead him with a small rope around his neck, which he will easily understand and teach him his name and to come at call. Never play with a colt or horse; let all your intercourse with them be grave and serious business, but kind and never harsh or cruel. Teach them daily or as nearly so as possible to know the use of a bridle, saddle and harness and to draw a vehicle. A colt so trained will work the first time he is asked to, without resistance, and generally without awkardness. Colts that have been properly treated will soon take pleasure in doing what you want them to do, and manifest it by their actions. They are never vicious or unmanageable and are not alarmed by accidents, as breaking of the harness or vehicle. Such an educated colt is worth twice as much as one allowed to grow up without education, raw and green, and you will never perceive that it costs you anything to give him the increased usefulness and value.

Vineyards around Galt are in fine condition, and give promise of a heavy crop.

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FLORICULTURE AND GARDENING

BY ERNEST BRAUNTON, LOS ANGELES, CAL.

CHRYSANTHEMUMS.

Many inquiries have lately come in regardiing chrysanthemum cuttings, division of old plants, etc. Cuttings should not be put in later than this month. Now is also the best time to divide old clumps, being sure to cut off all the tops they now have. At first the plants only need be watered enough to keep them from standing still, with no fertilizing at all. When they are growing vigorously, a couple of months later, begin to manure and water them more heavily, increasing both until the first buds show color, after which they need an abundance of water, but no more fertilizer. You must pay strict attention to dis-budding if you wish good results.

* * *

FLOWERING ANNUALS.

Farmers Bulletin No. 195, "Annual Flowering Plants," by L. C. Corbett, is valuable to every reader of this department. Its chief contents are: A valuable and instructive introduction, treatment of small places, use of plants about dwellings, school gardens, general cultural directions, hotbeds; followed by descriptions, illustrations and special requirements of over fifty of the most popular flowering annuals. It is yours for the asking.—U. S. Department of Agriculaure, Washington, D. C. Send for it.

* * *

MILDEW ON ROSES.

"Subscriber," Riverside: The rose leaves sent are covered with mildew. Dust the foliage with sulphur or use Bordeaux mixture, which for this purpose should be made as follows: Copper sulphate, 5 lbs.; lime, 5 lbs.; water, 40 gals. A very weak solution of soft soap is often beneficial. Another good spray is as follows: Shave up a bar of Ivory or any other soap containing no free alkali, and dissolve in a pailful of boiling water. When dissolved, dilute with five pails of cold water. While some sorts of roses are more subject to mildew than others, the trouble more often results from lack of proper treatment.

* * *

DIFFICULT PROPAGATION.

T. V. D.: Do not attempt propagation of the brick red Bougainvilla (B. lateritia), for the chances are heavily against success. Cheaper by far to buy one at a nursery or plant depot. The only way to score a success with certainty, in the propagation of these plants, is to layer them.

* * *

GARDEN NOTES.

Ed. Cultivator: Please answer the following questions:

1. What fertilizing properties have lime or plaster?
2. Would it be advisable to put some in the soil when preparing for a lawn?
3. In what quantities if at all?
4. What is best treatment for potted cyclamen after blooming?
5. What kind of an atmosphere does an azalea need?
6. What is the proper quantity of blue grass to sow for lawns?—J. R. D., Santa Barbara.

1-3. Lime is seldom, if ever, applied to soils by reason of its value as a direct fertilizer. Its chief value lies in its unlocking unavailable nitrogen, phosphoric acid, and potash. We usually apply it to gardens in one of three forms, viz: Quicklime, gypsum or land plaster, and wood ashes. We would not advise applying it in any form to soil for lawn purposes. Better far to use it on the grass when it shows need of food. It is very beneficial to Kentucky blue grass.

4. Gradually lessen water supply until bulbs are "dried off," put in cool place (in the pots) and repot only when it is time to start them. Commercial florists do not keep over bulbs, as a rule, but grow from seeds each year—the flowers and foliage are much finer.

5. Cool and damp, no draught.

6. One pound to two hundred square feet.

HOME MANUFACTURE OF UNFERMENTED GRAPE JUICE.

(Continued from first page.)

expressed. Then gradually heat the juice in a double boiler or a large stone jar in a pan of hot water, so that the juice does not come in direct contact with the fire, at a temperature of 180 degrees F. to 200 degrees F.; never above 200 degrees F. It is best to use a thermometer, but if there be none at hand heat the juice until it steams, but do not allow it to boil. Put it in a glass or enameled vessel to settle for twenty-four hours; carefully drain the juice from the sediment, and run it through several thicknesses of clean flannel, or a conic filter made from woolen cloth or felt may be used. This filter is fixed to a hoop of iron, which can be suspended wherever necessary (fig. 2). After this fill into clean bottles. Do not fill entirely, but leave room for the liquid to expand when again heated. Fit a thin board over the bottom of an ordinary wash boiler, set the filled bottles (ordinary glass fruit jars are just as good) in it, fill in with water around the bottles to within about an inch of the tops, and gradually heat until it is about to simmer. Then take the bottles out and cork or seal immediately. It is a good idea to take the further precaution of sealing the corks over with sealing wax or paraffin to prevent mold germs from entering through the corks. Should it be desired to make a red juice, heat the crushed grapes to not above 200 degrees F., strain through a clean cloth or drip bag (no pressure should be used), set away to cool and settle, and proceed the same as with light-colored juice. Many people do not even go to the trouble of letting the juice settle after straining it, but reheat and seal it up immediately, simply setting the vessel away in a cool place in an upright position where they will be undisturbed. The juice is thus allowed to settle, and when wanted for use the clear juice is simply taken off the sediment. Any person familiar with the process of canning fruit can also preserve grape juice, for the principles involved are identical.

One of the leading defects so far found in unfermented juice is that much of it is not clear, a condition which very much detracts from its otherwise attractice appearance and due to two causes already alluded to. Either the final sterilization in bottles has been at a higher temperature than the preceding one, or the juice has not been properly filtered or has not been filtered at all. In other cases the juice has been sterilized at such a high temperature that it has a disagreeable scorched taste. It should be remembered that attempts to sterilize at a temperature above 195 degrees F. are dangerous, so far as the flavor of the finished product is concerned.

Another serious mistake is sometimes made by putting the juice into bottles so large that much of it becomes spoiled before it is used after the bottles are opened. Unfermented grape juice properly made and bottled will keep indefinitely, if it is not exposed to the atmosphere or mold germs; but when a bottle is once opened it should, like canned goods, be used as soon as possible, to keep it from spoiling.

A Useful Appliance.—An ordinary cider press is not expensive; nevertheless the majority of farms do not have one, and it frequently occurs that a farm is located so far away from any establishments dealing in such implements that the fruit might spoil or not be sufficient valuable to justify the purchase price and time lost and expense incurred in getting it. Fig. 3 gives an illustration of a lever press, very efficient for this and similar uses, which any farmer handy with tools can make, the material for which can be found on almost any farm at any time. The press consists of the following parts:

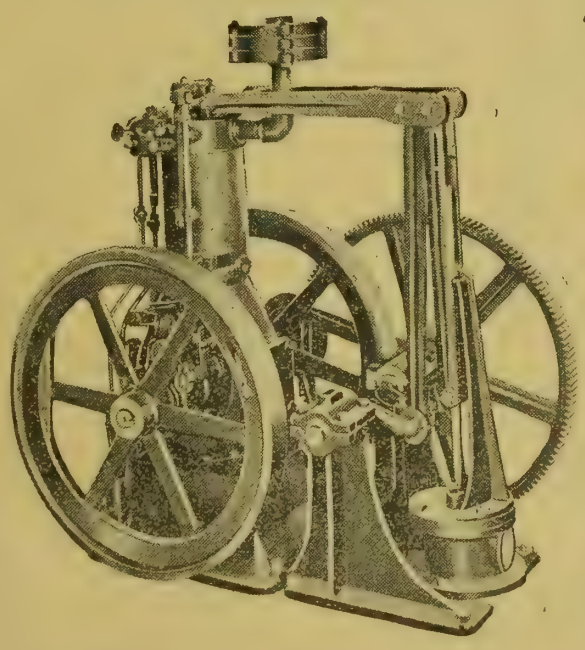
Two upright posts (F) set deep and firmly in the ground side by side and about 12 inches apart. (It is a good idea to attach some deadmen to them in the ground to prevent them pulling out too easily.) Between these posts the lever (E) is hung by means of a bolt (T), or the lever may be hung to the side of a building, or a hole notched into a tree large enough to admit the end of the lever and a bolt run through that. At the other end of the lever are two posts, so set that the lever can be raised up between them by means of block and tackle. The press itself consists of two timbers (D), on which the press bottom (B) rests, and on this bottom is the press basket, consiting of the two sides and two ends, and so constructed that it can be easily taken apart and set up again, being held together at the ends by means of rods (L). The sides and ends should be bored full of small holes from three-eighths to one-half inch in diameter to allow exit for the juice.

After the press is filled, the top (which is made to fit in the inside of the basket) and cross blocks (I) are put on and the lever is then allowed to press down on it. A press like this has the advantage that it can be filled in the evening and left to press until morning while the farmer sleeps. The precaution, of course, must be taken to set a tub (C) large enough to hold the juice under the press.

It is perhaps well to state that the longer and heavier the lever the greater the pressure it exerts. Where it is not convenient to make the lever very long, weights are placed or hung on the outer extremity of the lever to increase the pressure. It will thus be seen that with a little ingenuity a person can adapt the press to suit his individual requirements.

For ordinary purposes a press basket 3 feet square and 2 feet high will be found a very convenient size. This will accommodate a ton of crushed grapes.

Reports state that the recent cold snap had the effect of causing many prunes to drop from trees in orchards at Grangeville.



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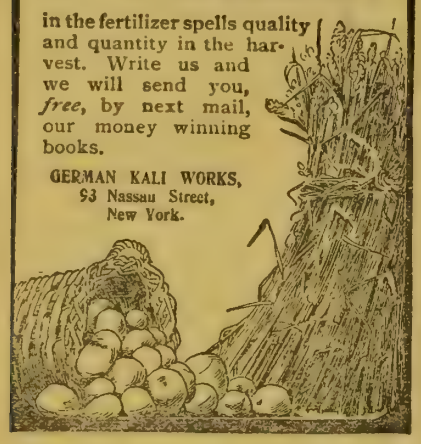

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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

AGRICULTURE.

The cabbage heads of Fullerton brought more this year than the oranges.

Grain in Merced county is so heavy that mowing machines can hardly go through it.

Wheat promises a pretty good crop in the State at large, but in localities it is going to fall below the average yield.

The hay harvest in San Diego county has begun. The hay is of excellent quality though the wheat is not well filled.

Governor Pardee says that ten million prosperous people should live in the Sacramento valley alone, so productive are its possibilities.

The "Porterville Enterprise" declares with much emphasis that the wines in that county are going to make Tulare famous and immensely wealthy.

The great Tapo ranch comprising 11,600 acres has been purchased by the Patterson ranch company for $15,000. It will be used for general agricultural purposes.

The cabbage output from Fullerton last week footed up about eighteen carloads, which will make sixty-five loads for the season. This will leave about seventy carloads yet to move out.

The Paso Robles Record says: The area into beets in this section is much short of what it was last year, the ground going principally into beans, because of the lateness of rains to warrant planting.

Italians at Stockton, this week formed a trust on onions and put the price up three dollars a sack for reds; but the merchants refused to pay that price, whereat the gardeners formed a contract with a forfeit of five dollars, and at the three dollar figure kept the market for some time.

The Lompoc Record says: Bean planting is in full blast, many of the farmers growing contract varieties for the seed men, finding it pays better to grow at a price certain than to depend on a precarious market; the usual price for contract seed is three cents per pound with seed furnished.

Leon R. Miller, of Sacramento, has been elected secretary of the State Agricultural Society. Mr. Miller has been connected with the association for several years as clerk to the secretary. He acted in that capacity under Judge Peter J. Shields, George W. Jackson and Harry Lowden, and is familiar with the work he will be called upon to perform.

HORTICULTURE.

There is a prospect for a large apple crop this season in the Lompoc valley.

It is estimated that 2300 carloads of oranges are yet to be shipped from Riverside.

A dispatch from Grass Valley says: "There will not be a carload of pears in the whole valley this season."

The Corona Courier says, "it will be only a short time until that section will ship 2000 carloads of oranges and lemons each year."

The orange shiment from the three Highland stations this year will approximate 1200 cars, an increase over last year of 150 cars.

Report from San Jose is to the effect that the cherry crop will be fair, prunes light, apricots fair, apples fair, pears a small crop.

The almond and apricot crops in Suisun Valley will be light. This is the opinion of all growers. Cherries will be later than usual owing to the cool weather that has prevailed, but the crop will be a good one.

Horticultural Commissioner Pease has just finished an investigation of nursery stock throughout the State, and while he finds white scale prevalent, he expresses no alarm, as he meets it with a successful parasite.

Three thousand dollars has been promised to the university by the California State Walnut Growers' Association. This sum is to be expended by the agricultural department in investigating and endeavoring to discover a remedy for the walnut blight.

J. H. Pattee, of Highland, will send seedling oranges east in sacks instead of boxes. He has found this method very profitable, as it does away with packing expenses and the fruit can be sold to the poorer classes in the east at a figure that quickly disposes of it.—Citrograph.

Instead of pulling up orange trees, the ranchers of Rialto section are still planting. It is estimated that about fifty acres will be added to the Rialto groves this season. The output up to date of oranges and lemons is 313 carloads from Citrus Union and 110 from Moffat Fruit Company.

C. N. Whitaker, who has purchased the Hollywood Sentinel, proposes to publish a paper having the interest of the orchardists of the Cahuenga valley as its first object. Already the influence of this excellent paper is being noticed in the splendid support it is giving all things pertaining to this grand section of Southern California.

A well-attended meeting of orange growers of Covina and vicinity was held in the A. O. U. W. Hall on Friday last for the purpose of selecting five delegates to co-operate with similar delegates from San Bernardino, Riverside asd Orange counties, to meet and devise methods for the proper handling of the orange crop. Resolutions were introduced condemning the methods of marketing pursued by the Fruit Agency, and recommending its discontinuance. The meeting favored the Fruit Exchange, under proper management, with smaller salaried officers, and recommended the sale of fruit f. o. b. California.

The New York Commercial, of recent date, says: All the California deciduous fruit will be handled this year, as it was last, through the co-operative organization known as the California Fruit Distributors. This organization was formed to overcome some of the difficulties of marketing, and so successful was it, it now controls all California deciduous fruit. Apparently growers have determined that co-operative distribution is most satisfactory in its results. The orange business is conducted that way. The decid-

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ORPHANS RECEIVED.

The following children have been received in the Boys' and Girls' Aid Society Home from January 1st, 1904, to April 1st.:

Half Orphans — Wentworth Wolfe, aged 12 years, blue eyes, dark hair; Joseph Miller, aged 12 years, brown eyes, dark hair; Flora Halbe, aged 10 years, blue eyes, light hair; Margaret Halbe, aged 8 years, blue eyes, light hair; William Halbe, aged 6 years, light hair, blue eyes; Foster McMullen, aged 11 years, blue eyes, light hair; Lionel Dupes, aged 8 years, blue eyes, light hair; Pearl Dupes, aged 4 years, brown eyes, light hair; George Nave, aged 10 years, brown eyes, light hair; Ben Odell, aged 8 years, brown eyes, brown hair; Ogle Edwards, aged 11 years, blue eyes, light hair; Virgie Edwards, aged 7 years, blue eyes, light hair; Rosebud Edwards, aged 9 years, brown eyes, light hair; Frank Welkins, aged 8 years, brown eyes, light hair; Louis Yenies, aged 8 years, black eyes, dark hair; Bruno Yenies, aged 6 years, black eyes, dark hair; Joseph Trotter, aged 5 years, brown eyes, dark hair; Domingos Frank, aged 9 years, black eyes, dark hair. Herbert Grimes, aged 4 years, black eyes, brown hair.

MRS. E. A. CHRISTIAN, SUPT.

Coast News and Notes

CONTINUED

uous fruit is handled by a co-operative organization and all California vegetables shipped east are handled by the California Vegetable Union, another co-operative institution. The increase in the product handled by these associations each year and the satisfactory prices obtained are sufficient evidence of the success of the experiment.

MISCELLANEOUS.

The Lompoc creamery is putting out about a ton of butter daily.

The sugar factory at Oxnard has increased its force by seventy-five men.

The California building at the World's fair was opened on Monday last.

Los Angeles has 35,411 school census children and claims a population of 160,000.

$659,808 is the amount the regents of the State University will have to work on this year.

The trustees of Anaheim have purchased 25 cars of oil to put on the streets of that town.

There are now annually sold in this country six to seven million dollars' worth of cut roses.

Last week the protracted drouth in Arizona was broken by a fine rain of two days and nights.

The bank commission has granted a charter to the Solano County bank to have its head office in Suisun.

The board of supervisors of Santa Barbara county has vacated the order appointing a bee inspector for that county.

Colton has organized a Merchants' Association, the purpose being to push the proposition to make Colton a fruit distributing point.

Ventura county supervisors have inaugurated a good roads campaign which is intended to extend to every road in the county.

The Fallbrook Review thinks the section around that town can stand a drouth better than any other part of Southern California.

Canneries throughout the fruit sections are preparing to re-open for business as soon as the apricot and other fruit season opens.

One hundred representatives of the various boards of trade in this State went by special train on Friday last to the St. Louis exposition.

Over 700 delegates to the M. E. General Conference sitting in Los Angeles, went to Riverside on Saturday last to look over the country.

The storm of Sunday a week ago injured the wharf at Oceanside, so it will be some time before it can be repaired. It was the severest storm in 20 years.

The Whittier high school bonds sold last week for $711 more than the former sale, but the delay in getting the building is a matter of regret to all Whittier people.

Dr. A. W. Scott of the Alameda high school will succeed to the principalship of the girl's high school of San Francisco. Dr. Scott is a growing Pacific coast educator.

The Salvation Army leaders are talking of establishing a silk colony at San Diego, and Mrs. Williams, the sericulturist, proposes to instruct the colonists in silk manufacture.

San Luis Obispo is to begin the erection of a beautiful public library building this month with all modern appointments and a library room capable of storing 10,000 volumes.

Governor Pardee announces that the bondsmen of Supt. Campbell of the California State Hospital will be asked to make good the loss to the State by A. C. Clark, who committed suicide.

During the season 60 wells were bored in the Coachella Valley. If we could get the number of wells sunk in Southern California during the season, the number would astonish the average reader.

W. T. H. Martin, the expert horticulturist and agriculturist, has gone on a six months' trip to Germany, representing the California Promotion Committee. He expects to induce many Germans to emigrate to this State.

A sixty-foot road is to be built from San Gabriel mission to the San Fernando mission passing through Pasadena. The plan as at present suggested is to build the road independent of the El Camino Real association, but to turn it over to the State when completed.

The exhibit prepared by the University of California to be placed in the California building at the St. Louis World's Fair is now complete and on its way to the fair grounds to be set in place. Within a few weeks the exhibit will be fully installed and ready for the inspection of visitors.

By an injunction issued, the Kern River Company, which is constructing the large power works at Kernville for the Huntington street car system, and a large number of residents of that section, are restrained from diverting the waters of the Kern river or diminishing the flow of the stream in any way.

At the request of the Los Angeles Chamber of Commerce, a member of that body has been appointed to serve on the Advisory Committee of the California Promotion Committee. This is taken to mean that hereafter the northern and southern sections of the State will work together for their mutual advancement.

San Bernardino county has thirty-nine students at Stanford according to the annual register of the University just issued. Twenty-one of these students are from Redlands. This county ranks fifth in attendance, those ranking ahead of it being Santa Clara, Los Angeles, San Francisco and San Mateo counties.—Citrograph.

EXISTENCE OF BEEF TRUST.

The Department of Commerce and Labor has for some time had agents in the Southern and Western States making investigations bearing upon the existence of a trust alleged to be in control of the beef supply of the country. Only incomplete reports have been made, and it is said that the department officials are not convinced that such a combination exists.

It may be that this is not regarded as the most suitable time for attacking trusts, or it may be that the investigating agents are poor detectives; but there seems to be no lack of evidence of the existence of a trust which controls the prices of beef on the hoof as purchased from the producers, and of dressed beef as sold to consumers. Evidence is abundant, but there is difficulty for producers in fixing the guilt.

It is known that prices of cattle in the Chicago market are thoroughly in the hands of the packers. They meet every morning and fix the maximum price that will be paid. Then the buyers, beginning below that figure, do the best they can with the shipper. Thus there is apparent competition, but in reality no competition whatever, since none of the buyers can go above the figures fixed for the day. The shipper who holds out the longest gets the best price, providing always the packers have not succeeded in getting their quota at lower figures. The railroad charges, feeding charges and rentals are not calculated to induce the shipper to hold his stock an hour longer than necessary to find a purchaser.—Farm and Floral World.

MEMENTO FROM ARTESIAN WELL.

The Pauba Rancho near Temecula consists of 40,000 acres and is managed by Messrs. Cobb and Culver, who have annually 700 acres in alfalfa, all of which is fed to cattle brought there annually by the trainload. One year when they did not obtain the cattle they sold 5000 tons of alfalfa from this tract, shipped from Temecula station. This season the water supply is getting low and the managers are sinking a number of 10-inch artesian wells, that are put down about 600 feet and from which there is a strong flow of water from the top of the pipe, pumping not being necessary. In putting down a well last week, when at a depth of about 400 feet a small boulder about two or three inches in diameter was thrown up by the sand pump which is an excellent likeness of the human head carved in granite, smooth and shapely, with eyes, nose, mouth and eyebrows almost perfect.—Enterprise.

The Perfect Home.—Having the work of the house on a business basis improves the general tone of the home. She who conquers all the problems of housekeeping is able to create a perfect home—a place where all is harmony, where all the environments are cheerful—where comfort, health, freedom and happiness are secure. She knows how to combine the fixed rules which insure bodily health with the elastic rules of perfect freedom. She realizes that she who makes a perfect home must have wisdom as well as experience, and she knows that the one fixed rule of her life must be to consider all the means which may be used for the betterment of each member of the family.—Ettie S. Wilson.

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Friday, May 20, 1904

CURRENT EVENTS.

State University Criticized.—Last week the Cultivator made reference to some amendments to the present statutes relating to the rural schools, especially the broadening of the law in many essential points. In this connection much objection has been raised by educators to that particular section which provides that high schools organized under the present law for the establishment of high schools and receiving State aid under the act, "shall, within one year after first beginning to receive such State aid, provide at least one course of study such as will prepare pupils for admission to one of the colleges of the University of California, and for that purpose said high schools shall be subject to inspection by a duly accredited representative of said university." The law further provides: "High schools eligible to receive State aid as herein provided shall admit as students only such pupils as have completed the full course of instruction prescribed for the primary and grammar schools of the county or the city and county wherein the high school is located, or an equivalent course, or such pupils may show, by thorough examination, that their qualifications are equivalent to the requirements for graduation from said primary and grammar school course; provided, that pupils otherwise qualified to enter a high school and residing in territory wherein no high school exists shall have the right to attend any high school that receives State aid under the provisions of this act without the payment of tuition fee, if such schools have room for accommodation for them."

State educators, at the late convention of county and city superintendents of schools in California, last week, took the ground that the enforcement of the law would eventually cut out all the technical and commercial schools in the State from assistance from the State apportionment for the maintenance of public schools.

Along this line Superintendent Keppel, of Los Angeles, referring to the last enactment of the legislature on rural schools said:

"The law as it now stands makes the high schools subservient to the State University—a very poor policy. The high school ought to occupy precisely the same relation to the university that the common school does to the high school. In other words, the diploma of graduation from the high school ought to admit its holder to the university upon the subjects completed in the high school named in the diploma. In this way every high school would have a course leading to the university."

Superintendent Keppel declared strongly in favor of permitting pupils residing outside regularly organized high school districts to enter the nearest school, stating that, on account of the heavy cost, the law should authorize a tuition charge to non-resident pupils equal to or less than the difference between the cost per unit for salaries and expenses and the income per unit from the State tax.

"This change in the law," he said, "would doubtless awaken fierce opposition but its inherent justice will make it win its way into the law in the end."

* * *

Ownership of Public Utilities.—In another column appears an article suggested by the conditions which surround the citrus fruit industry at the present time. The writer of the article, while suggesting the broad doctrine of public ownership as the remedy for existing evils, does not indicate in what way the cost of oranges may be cut in their production.

With the actual surplus of oranges today and that surplus growing each year because of increased acreage, the cost of producing a box should be reduced from 55 cents to a much smaller sum. Just how to do this is the problem confronting the orange growers at this time. The cost of labor in handling the fruit must be reduced, as well as the cost of fertilizing. These items now constitute the burden of expense to the orange business. The transportation question is the most serious one before the California shipper. It is the one which must be solved if the producers of fruits and vegetables are to continue in business. It should be solved by lower rates, shorter time schedules and reduced icing charges. In one respect there does seem to be relief ahead for the shipper. The managers of one of the trunk lines have arranged to bring into service, between the coast and the east, more than two hundred locomotives which have not heretofore been doing service on the direct line of the road. With this addition to the normal motive power the matter of transportation will be in part solved.

As regards the ownership of transportation lines by the public, it will be admitted, we think, that the idea is a growing one. It is along the line of ownership of public utilities, such as municipal ownership of street railways, waterworks and lighting plants. Where the experiment with these utilities has been tried it has proven a success, not only producing better results but cheapening the cost of the articles to the public.

In those countries where the government owns and operates the railways, there is a very considerable saving to the public over the cost when operated by private capital. What is true in one country should be true in another, and especially in a country as enlightened as is the United States. Why, we are often asked, can not the government as well manage a railroad as a postoffice? The latter is operated at minimum expense to the public and so might the railroad be operated. The ownership of the Panama canal will be the initial proceeding of government ownership of transportation utilities, if it should prove to be what its projectors anticipate. It is on this great proposition that the advocates of the doctrine of public ownership base their expectation of the future popularity of their idea. They believe it is the introduction of a new departure along the line suggested and will result, in its usefulness, in creating a demand for ownership of transcontinental lines for the relief of the public.

The suggestion is not without force at this time and gives evidence of becoming a living issue in the near future.

* * *

A Ten Mile Zone.—The establishment of a ten mile zone owned and controlled by the United States was a wise provision in the Panama purchase. Now, a code of rules and regulations has been devised, under which all persons operating or abiding within the limits of the zone, will be governed. Work upon the canal will not be started until all preparations are completed for the care and protection of the forces to be employed have been made. Strict attention to the laws of sanitation will be observed. Good cook houses, clean sleeping quarters, shelters from sun and rain, and hospitals will all be constructed. Good drains from the camps will be dug, lime and other purifying disinfectants will be provided and pure water furnished. No liquors will be permitted to be sold within the zone. All camps and quarters will be well policed and inspections will be frequent. These steps will be taken to conserve the general health of the working forces. Contractors and subcontractors will understand their limitations and will be forced to treat their men more humanely than has been the custom to do upon public works heretofore. There will not be that utter disregard and waste of human life that obtained under the former endeavor to dig that canal. The De Lesseps fiasco was a carnival of wanton license, resulting in awful mortality. The construction of that waterway, like the sanitation of the Cuban cities by this government, will be an object lesson to the world. By the establishment of such safeguards, and by the employment of the most recently invented excavation and dredging machinery, more rapid progress will be made than there was under the De Lesseps regime. Under the careful provisions made in the preparatory steps, a much larger force can be employed and it has been estimated by eminent engineers that the canal can be dug within six years.

PUBLIC OWNERSHIP.

Editor Cultivator—In a late issue of your paper it was shown that the cost of producing and packing a box of oranges is about 55 cents, and the railroads charge 90 cents to carry the box of fruit to eastern cities.

Prof. Parsons, of Boston, of undoubted honesty and ability, has shown that under national ownership of railroads, freight charges would not be over one-tenth of those now collected, and he gives data that proves beyond question, that the facts are as stated. It seems strange that instead of advocating what is clearly the only remedy, i. e., "Public Ownership of Railroads," you advise the orange growers to cut down the cost of production.

Now, I am aware that you decline to enter into politics, perhaps rightly, but this is not a political question. It is a question that concerns gravely the whole of the producing classes, particularly so in California, for these extortionate charges press equally on all kinds of produce, and unless relief is had ruin will be the outcome.

There is going on now a general agitation of the subject among the producers that will soon lead to an overwhelming movement in behalf of Public Ownership of Railroads. Will you pardon me if I ask, will it not be better to start right in and help than wait and be pushed by it?

Surely, there is no policy that you could adopt, that would make your paper more popular, for you would have strong public opinion backing you up, and justice being clearly on the side of the common people, you would not only gain immediate reward, but would have the satisfaction of knowing that

California Cultivator

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"He who would win the name of great
Must understand his own age and the next,
And make the present ready to ful fill its prophecy,
And with the future merge gently and peaceably,
."As wave with wave.

"Let us call tyrants, tyrants,
"And maintain that only freedom comes by Grace of God,
"And all that comes not by his Grace, must fall.
"For men in earnest have no time to waste in
"Patching fig leaves for the naked truth."

Trusting you may see your way to the advocacy of what is so urgently demanded in behalf of the producers of California, and that you may "do the right as God gives you to see the right," I am, E. W. Robbins.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

DISORGANIZATION—THEN DISASTER.

The extreme activity of the commission men and the virulence with which their organs are attacking every effort the California fruit growers make for a voice in the transaction of their own business, bid ominously for the future of the orange trade, should it ever again fall into the hands of these "merchants." We know that a large majority of those growers who are proposing to act independently do not wish to see themselves dependent upon commission merchants for the sale of their fruit. The old guard who were in the ranks twelve years ago, know the utter hopelessness that came over the citrus fruit industry those days and they do not wish to experience the like again. There are many extenuating circumstances this season for the failure to realize profitably upon the orange crop. One of the chief of the independent shippers says there are, and he further states that the prsent methods of handling the fruit are not altogether to blame for disastrous results. But during the seasons of the early nineties, when the commission men had full swing, there were no excusing circumstances for the utter failure of the orange business. The commission merchants had driven the industry to destruction, making it imperative for the grower to organize, or see their business go permanently to destruction. With a large majority of the orchardists opposed to going back to the commission plan of selling oranges and lemons, one would suppose they would oppose disorganization of the co-operative forces at present existent. But many do not, for they are being misled by counter propositions that seem as far from commission selling as the north is from the south. And so they are if they would work.

What is more ideal than selling all the fruit at home all the time? Or, what more catchy than a home auction plan, where the oranges would find bidders awaiting them at profitable prices? But the advocates of these plans forget that we are facing a surplusage of oranges, and that when the point of overproduction is reached or approached there will be no possibility of speculation and hence no f. o. b., or home auction demand. Everybody concedes that home selling must be backed by the profitable disposition of the fruit after the speculators buy it. This being true, then, the home purchasers must know that there is a market for all the fruit offered for they will have to meet it on sale in some way during the season. No mattey how the matter is twisted about, the essential elements are the amount of fruit produced and the amount in demand by the consumer. The alleged f. o. b. buyers who are marshaled before the mind's eye (only), were they really in readiness to buy, they would not venture before a prospective overplus without having control of the output of fruit. There is not enough money among the alleged buyers to make a decent start at control, were they to undertake it. It is prime folly to even imagine that the expected dealers would undertake what the combined wisdom of the growers has failed to do, namely, the control of the crop and its proper distribution. Rather would surrender of the growers agency induce all the cupidity, inefficiency and impotency of the dealers to come forth into the west and exploit the individual grower, letting the devil take the hindmost man and there would be thousands of growers in the rearward contingency, hopeless and helpless to the end of the most monumental and picturesque failure ever witnessed in any agricultural industry.

The growers should not forget at least the incidents that stand out as boldly as bumps upon a log. What were the conditions one year ago last March? Were they not so hopeless that no one knew what would be the outcome? Would the latter part of last season and all of this have been any more satisfactory had the coalition between the Exchange and the Citrus Union never been formed? In the panicky whirl of the last few months who has taken a square look into the dilemma that would have met the industry, whether the "merger" had been made or the old plan of half-co-operative and half-commission-speculative been continued as it was in March, 1903? By this time next year the overturners of co-operative marketing methods will know a whole lot more than the do now, if the present agitation succeeds in wiping out the last vestage of protection the growers have ever had. Advocates of waiting for buyers f. o. b., of home auctioning and of everything "forninst" the administration will have some priceless experience by that time in the line of fundamental knowledge relating to the movement of perishable goods without trying to push them as all other products approaching surplusage are sold.

But we anticipate that when the round-up occurs next fall there will be a strong organization doing business upon co-operative lines, and, if you will have it, preserving the balance so that the independents may live to boast of what a magnificent thing it is to do business upon the results of the organization which they taboo in public, but pray for in their innermost hearts. Disorganization means disaster in this day of co-operative effort, combination and consolidation in other lines.

Ah Hing, a Chinese fruit packer of Oakland, and his associates, are preparing to put up a packing plant at Rio Vista, and another near San Jose.

CITRUS FRUITS

ORANGE TROUBLES.

Editor Cultivator: I wish you would inform me why a portion of my Washington navel trees fail to bear with good results. I have about two acres of navels of which more than half fail to do well. They are all in one orchard and about eight years old, and were propagated from good buds. It seems to be mostly in the center of the orchard where they fail. They bear a few little knotty oranges that are perfectly worthless.—G. M. W., Santa Barbara.

It is a hard question to answer. We doubt if we could give you a definite answer if we were on the ground. The chances are that your soil is deficient in humus, though we make this statement because that is the prevailing condition in orchards that act as yours does. Where commercial fertilizers have been used excessively and the soil is deficient in humus, there seems to be little good derived from the fertilizers. Again, there may be hard pan or something the matter with the soil. Our advice would be to plant green manuring crops for two or three years at least. We know that they would do no harm and we have never seen an orchard so treated that did not improve. Canada peas sown in August or September and plowed under in December will without doubt help your grove.

LULL IN INTEREST.

There is apparently a lull in the discussion which has been prevalent the past two months over the orange marketing proposition. Meetings have been held, it is true, in various towns to discuss ways and means to bring about better conditions in future, but nothing definite has been decided upon. The lull in the excitement arises, doubtless, from two causes. First, the delay on the part of Mr. Kinney to amplify his charges against Mr. Naftzger, and, second, because the market conditions are getting somewhat better for the shipper, which leads to the hope that the orange producers may receive remunerative prices for the remainder of their product. Of course, the most of the fruit is shipped for this season, but it will be encouraging to receive good returns on part of the product if not all of it. There is little of interest along this line and will not be until the committee appointed to examine into the affairs of the Southern California Fruit Exchange makes it final report. Many prominent growers are urging the segregation of the Citrus Union from the Agency and a return to the old exchange plan of marketing.

At Riverside, yesterday, a meeting of the twenty delegates elected by the orange growers of Los Angeles, Riverside, San Bernardino and Orange counties, was held for the purpose of forming a more complete organization of the delegates and to consider suggestions from them relative to the future marketing of oranges.

Visitors to the St. Louis exposition from California are now entertained at the State building, which is open. It is located on the hill east of the Palace of Agriculture.

At a meeting of all the co-operative exchanges, held at San Jose on Tuesday, of this week, it was decided to raise $75,000 per year for advertising the merits of California dried fruits.

The Salem Cannery Co. is preparing to pack corn this season. The necessary machinery is now being installed in the plant.

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PERFECT GROWN CITRUS TREES

The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased so send you one

SAN DIMAS CITRUS NURSERIES San Dimas, Cal.

C. H. SESSIONS, ASSOCIATE EDITOR

THE PROFITABLE COW.

We were lately shown the record of a registered Jersey heifer that, with first calf, and at two years of age, gave practically her own weight of milk, testing 5.2 per cent, during the month of April. During the month she was moved to a new ranch, was dehorned, bred, subsequently came near bleeding to death, and was run on pasture for the first time in her life. Considering these circumstances, we think the record sufficiently good to justify comment.

There are doubtless many other instances of similar character and we think it might be of interest to the public and of benefit to the breed, if owners of cows producing their weight of good milk in a month should make a report of the same. There is no doubt but such an animal is "a plumb good one." In the case noted above, butter fat was produced at a cost of less than three cents per pound. Pasture and hay were good, bran being the only grain fed. Much of this result was due to care, attention and grooming. We should be pleased to receive reports of similar instances.—C. W. C.

CALIFORNIA HIGHER THAN THE AVERAGE.

The latest volume of registrations issued by the American Jersey Cattle Club shows 53 entries by California breeders. Regarding numbers, this State ranks twenty-fourth, being followed by 29 States and Territories.

As the breeding of pure-bred dairy cattle was inaugurated after almost every other State in the Union, it certainly shows remarkable progress and growth for California to achieve the position indicated in so short a time, and during a period when other localities situated nearer the centers of the breeding interests were also making good advancement. Extended investigation only tends to confirm the conviction that California today is probably the most rapidly progressing and most promising field for advanced live stock breeding in the Union. A striking illustration is furnished by the growth shown among breeders of registered Jersey cattle. Ten years ago not a dozen persons in this part of the State were owners of such stock. We have at present the names and addresses of over 150 so engaged south of Tehachepi.

Ten years ago scarcely a raiser could be found who was breeding pure-bred registered swine. Now we have the addresses of over fifty such breeders who are giving this branch a large share of their attention, and there are possibly three times that number in this part alone of the State who are engaged in raising pure-bred swine.

The Poland-China and Berkshire breeds are strongly represented, while in one day's ride we have inspected registered animals of those breeds and also of Duroc Jerseys and Essex families. We might add that their owners all regard them as among their most profitable acquisitions.

Pure-bred poultry is everywhere, there being scarcely a breed in the world not represented by choice strains and flocks. And they are universally conceded to be money-makers.

In horses California is an outstanding winner and has produced world's records, great breeders and renowned travelers almost unnumbered. Our climate and environment are unequaled in their relation to successful development of livestock, as often testified to by competent judges of its varied branches.

In the face of all these natural advantages and inducements to live stock raising, the State continues to send vast sums to the east and elsewhere for just such products as we can produce here more cheaply than can be done where we obtain it.

RULES GOVERNING THE TESTER IN AUTHENTICATED FAT ESTIMATES.

Seeing Cow Milked Clean.—In authenticated fat estimates, the tester must see the cow milked clean at the hour of the last regular milking period prior to the application of the Babcock test, and in each case of all tests for yearly periods, the last milking, each month, to which the Babcock test is applied must occur forty-eight hours after said cow has been milked clean as aforesaid.

Weighing Milk.—The tester shall be present at and throughout each milking during the entire period of an authenticated fat estimate; except in case of all tests for yearly periods, when he shall be present for at least two days in each month. He shall weigh the milk given at each of such milkings immediately after it is milked, and record the sale on the form provided for that purpose, and he shall weigh the empty milkpail before each milking.

The tester shall take a sample of the milk for determination of butter-fat immediately upon the weighing of the milk, being careful that the milk is thoroughly mixed before taking the sample, and that it is a fair sample of the whole. Such samples must always be securely retained under the absolute control of the tester.

The tester shall apply the Babcock test to the milk every day during the period for which an authenticated fat estimate is made, making a separate test of each milking; except that in case of all tests for yearly periods he shall apply the Babcock for at least two days in each month, a separate test to be made of each milking during the two days. He shall determine the percentage of butter-fat in each sample, placing the required amount of milk from the sample in at least two test bottles for that purpose. Should the reading of such butter-fat show a greater variation than one-fifth of one per cent between two bottles, the tester shall make another determination of the percentage of butter-fat by two test bottles, to correct the previous one. If the variation between the two determinations is one-fifth of one per cent., the tester shall take the mean between the two decimal fractions as the percentage of butter-fat upon

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Both Sexes For Sale
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which he shall calculate the total fat in such milk. The tester shall each day enter the total amount of butter-fat shown by the Babcock test to have been contained in the milk of each milking.

The tester shall send his report to the secretary of the American Jersey Cattle Club, 8 West Seventeenth street, New York, accompanied by a memorandum of his expenses.

Each tester shall be paid not more than $5 a day for each day he is necessarily engaged in conducting an authenticated fat estimate, and also his traveling expenses. Under no circumstances shall any payment or gratuity to the tester be made by or permitted from the owner of the cow or any one interested in her, and any violation hereof shall invalidate the test.

HOGS IN CALIFORNIA.

California has as good hogs as there are in the world, wrote P. H. Murphy of Sacramento in a letter to the California promotion committee. We have been breeding up and purchasing the best blood to be had at long prices for years. The Poland-China and Berkshire are the leading breeds for California. Chester Whites were lately imported, but the breeders do not like them for this climate on account of their color. California conditions are first class for raising hogs as well as cattle and horses. There is money in raising hogs at 5 cents per pound. For six months in the year they are gleaning the grain fields, orchards or vineyards without any cost or care to the owner. All that is needed is fresh water, and here I will say from experience that fruit and grapes make first class pork.

Diseases are often found among the large herds of hogs, principally those kept on water courses and rich river bottom lands, but not to such an extent as to discourage breeding and raising them for profit. A prevention is in clean quarters, good water, plenty of room and healthy food.

Stock raising in connection with grain growing is profitable and will keep up the fertility of the soil and make a full purse for those who continue in that line, with attention to its details.

* * *

Cement Hog Houses.—We are on the eve of a cement age. The first winter's experience with cement hog houses offers nothing new, according to the experience of H. E. Cook, related in Stockman and Farmer. Pens must be kept as clean as a cow stable, with plenty of dry straw bedding. But how you can make manure on a concrete floor. It is a pleasure to note each year the increased acreage covered since concrete was used over former times when we had only plank. Do not fear concrete for any form of live stock if it is dry and covered with some nonconducting material like straw or shavings, not sawdust, unless kiln dried.

* * *

Strong Hind Legs and Feet.—The hind legs should be well set, straight, short and thoroughly supported below the hocks. Too much stress cannot be laid on the conformation of the hind legs and feet, says W. J. Kennedy, an Iowa breeder. Here is one of the very weakest points in our fat hog. Many hogs have excellent form, but poor feet and legs, thus are compelled to go begging on the market as cripples. The legs should be short, pasterns short and strong, and the hog should walk on his toes, not on his dewclaws.

TWIN CALVES.

Editor Cultivator—Will you kindly tell me through the columns of the Cultivator, whether there is anything in the idea that the female of calf twins, where the other twin is a bull, will never breed? My fine family Jersey has dropped a couple of fine calves. I wish to raise the heifer, unless this old saying is right, when both would go to the butcher. An answer in the Cultivator or by mail would greatly oblige.—M. C. H.

I have never tried the experiment but it is generally believed such heifers will prove failures.

Geo. E. Platt says it has always failed with him and he would not take chances in trying to raise them, although there are cases on record where they bred all right.

DEEP MILKING AND HEAVY BUTTER PRODUCING JERSEYS

The following reference to the Jersey herds of Lord Rothschild and Dr. Watney, taken from an English exchange, contradicts again the statement that "a small yield of milk is characteristic of the Jersey breed." In England, an imperial gallon is ten pounds. By careful breeding and selection of breeding animals, together with common sense methods of rearing the heifers, ten-thousand-pound-a year Jerseys are easily produced. Our exchange says:

"The Jersey is commonly regarded as a poorer milker, and while it is admitted that her milk is rich, her value to the farmer is discounted owing to the paucity of the quantity; but what do we find in the Tring herd? Twenty-six cows averaged 660 gallons, figure higher than the great majority of averages of dairy farmers who keep Shorthorns and other large cattle of a known deep milking type. Among the animals referred to was one which gave 1,280 gallons, and two others which nearly reached 1,000 gallons each. A third cow, which gave over 850 gallons, has averaged 870 gallons for five years, while the biggest milker of all has averaged 950 gallons yearly for four years. There are a few inferior cattle in the herd, and the advantage of a record is that they can be weeded out, because their work is

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

G. I. Lytle

HIGH GRADE, STANDARD BRED JERSEYS

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Advertising Column for Members

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PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

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Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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Service bull "SARGENT BOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

J. A. CAMPBELL WE HAVE SOME GOOD ONES C. W. CAMPBELL

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The blood of all the winners at the Chicago World's Fair. Will sell a few young of either sex.

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ALSO

MELIA ANN'S LAD and a YOUNG TORMENTOR BULL

The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address

James Houston - Duarte, Cal.

known. Lord Rothschild owns many more Jerseys, but the twenty-six referred to are those which were in the herd for a whole year. A few of the others included purchased animals or heifers which came into the herd during the year, while a still larger number were animals which had gone out of the herd during the year, and the records of which were, in consequence, imperfect.

"The details regarding Dr. Watney's herd of Jerseys are published contemporaneously with the details of the Tring Park herd, and once more we have a wonderful result. In both cases the bookkeeping is perfect, the milk produced and milk accounted for being almost balanced in spite of its quantity; and yet Dr. Watney's herd is kept entirely for buttermaking. Twenty-three cows averaged 457¾ lbs. of butter per head, no less than seven cows exceeded 507 lbs., the famous Sharab yielding this quantity, and being seventh on the list, the best producer being a cow that yielded 545 lbs. With one exception, every cow yielded more than 360 lbs. of butter, and it is considered that the quantity is even above the average of most herds in England.

"It is interesting to compare these results with those of the Sunnyside Asylum herd of pure bred Ayrshires. We learn that during the past year twenty-five cows averaged 8,475 lbs. of milk, the highest individual record being 10,994½ lbs. for eleven months and one day, and the lowest 6,763¾ lbs. for ten months and twenty-two days, only two cows giving less tron 7,000 lbs. of milk. The quantity of butter produced ranged from 297 lbs. to 485 lbs., the average being 373½ lbs. per cow."—Jersey Bulletin.

THE BEST OF ALL TESTS.

It is with great interest that we note the expressed intention of Mr. Leffingwell, of Lemonita herd of registered Jerseys, to put his cow Vela Hastings, soon to freshen, on a yearly test by the official tester of the American Jersey Cattle Club, Mr. Burgess, of Riverside. Such a test—for the entire year—is the only adequate criterion of a dairy cow's real value. "Vela" carries much of the most famous producing blood and should show a creditable record. Being by an official of the highest standing and duly accepted by the national organization, it will carry great weight and stand beyond question. This constitutes another mile stone in the progress of Jersey breeding, and we hope will be followed by many others.—C. W. C.

It pays to keep only good cows. Fatten your poor ones, sell them for beef and then buy good ones. If you can not buy but one cow have her good. Remember, feed given to a good cow brings an adequate return while feed to a poor one is thrown away.

SUGAR FOR COWS.

The value of sugar for feeding purposes has risen higher in the estimation of practical men, as also of scientific experimenters, than it used to be. The Germans have actually discovered that sugar in food has almost as high a feeding value as the nitrogenous matter in the way of yielding energy, or as "fuel value," while in practice we find that naturally it enters very largely into the composition of all our foods. Fresh grass feels sweet to the taste; clover heads are full of honey, while, not to mention fruits, all our root crops contain a large percentage of sugar. In addition to these, however, the amount of sugar supplied in the rations of live stock can be largely increased by the use of treacle or molasses in some form or another. In the sticky, semi-liquid form it is exceedingly nasty stuff to handle, but when soaked up by some fiber and dried, then it becomes like so much meal. Various substances are used for this purpose—sphagnum moss, dried brewers' grain, powdered Indian corn stalks, and leaves, and so on, and it is difficult to decide between the claims of each. The use of such food is largely on the increase, and the majority of farmers are finding it beneficial to employ it more and more. While the food value is not to be despised, the best results are to be looked for in the condimental value of the same—in sweetening fodder, for instance, and in the keeping of the animals in a healthy condition. The writer has for two years or more now fed a preparation of molasses at the rate of from one to two pounds per head daily to his milk cows during winter. There has been no perceptible increase or decrease in the milk, but there has been a very great improvement in the general health of the stock, an opinion corroborated by the experience of others consulted on the subject. In this matter of condimental effect, of keeping the digestive organs in proper tone and improving the general health and condition of the animals, it will pay to use molasses in some form or other.—The Dairy.

The small farm is coming in California—the small farm we mean, which is devoted to the production of live stock, will increase in value in proportion to the stock raised.

Test your cows and then preserve the record.

Quinto Herd
California's Premium Herd of Shorthorns
27 Premiums awarded State Fair, 1902
45 Premiums awarded State Fair, 1903
Young Stock For Sale
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Oldest and Original Home of Registered Holsteins in California, and Home of the Juliana Family.

——FOR SALE——

REGISTERED HOLSTEIN BULLS
PACING AND TROTTING HARNESS HORSES
PERCHERON AND ROAD STALLIONS

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

LITTLE THINGS.

Little drops of water,
Little grains of sand,
Make the mighty ocean
And the pleasant land.

All through life it is the little things that are the most important. Little things in the poultry business will either make or ruin it. The little lice are now in evidence and the little chicks will suffer from them, so look for those little pests and if you do not see them, fight them all the same by powdering the chicks with a good insect powder. For little turkeys never, never grease them, but rub powder into their heads and into the quill feathers of their wings.

* * *

One bright Sunday morning in Oklahoma a neighbor came to see me. "Wife is in trouble; the little turkeys she bought from Mrs. C. are dying and she finds they have lots of lice on them. What can she do to save them? You cannot grease turkeys, so she is just picking the lice off the sickest and sent me to ask you what to do."

I had some buhach, which I gave him. I only had about an ounce and there were fifty little turkeys to be treated. I told him to take a newspaper, lay it on the table and take one little turk at a time, hold it on or over the paper, rub some of the powder well into the head, neck and wings, especially in the quill feathers. Save the powder which drops on the paper and use it over again.

He reported next day. The turkeys had stopped dying and he said: "It was amazing to see those lice crawling out of the turkeys and falling on the paper. I never saw such a sight. No wonder the poor little things were dying."

Buhach is the heart of the California daisy. It contains an essential oil which asphyxiates insects, chloroforms them, you might say. It will destroy fleas; it makes them crawl off of a cat or dog and die if sufficient is used. It will asphyxiate flies also. I have frequently driven flies from other rooms into the kitchen, then filled the little powder gun with buhach and, with windows and doors tightly closed, blown the buhach into the air till it was like a dust storm. The flies soon become intoxicated, fly round in a funny, lazy fashion and finally drop on the floor, crawling round in circles. In about an hour they are so stupefied they can be swept up and put into the stove. If left they will recover their sense in less than an hour, only the weakest will die. It is a wonderful relief to get rid of them all at once. I have also made a smudge of buhach by burning it on a tin plate in the tent, when camping out. This will drive away the biggest and most hungry mosquitoes, and clear the tent of flies. Buhach loses its essential oil if exposed to the air; it should be kept in a tin box or in a glass bottle. Buhach kills lice, flies, fleas and mosquitoes. It can be bought at any drug store.

* * *

Little grit is one of the essential little things for little chicks. It rarely happens that there is grit enough in the soil for either little chicks or big hens, but this is a matter each one must find out for themselves. "Will Madame please look at what I have found in the interior of this fowl?" said my French maid to me, many years ago. There were thirteen china buttons and two pearl buttons in that young hen's gizzard. Some of the buttons were worn in half, the pearl buttons were partly dissolved. There was no gravel in the soil and the hens were making the best of the situation by picking up the buttons off the children's clothes. After that broken plates or even glass was pounded up for the benefit of those hens; this they ate with avidity.

"I cannot think what ails my fowls," said one lady near Los Angeles; "they have all the food they can eat, but here another is dead." Have you ever opened one to discover the trouble?" "Yes," was the reply," but I never find anything." Well, I think your fowls have indigestion, but we will examine the gizzard of this one." The gizzard was of medium size, full of dark earth, no stones nor grit, not even buttons. "This tells the story; your fowls have nothing with which to grind up their food, no teeth, and are dying from indigestion, or starvation." The soil on this farm is adobe. The hens required grit, which can be bought at the poultry supply stores. A substitute for grit is crockery pounded up. When I first came to California the poultry supply houses did not have grit, and I used to beg broken china from my friends, pound or grind it up; the fowls like it very much.

* * *

Small nuggets of gold, found in a hen's gizzard, led to the discovery of gold in one of the Australian gold fields; so it is well to examine the fowl's gizzards when dressing them; then you may chance to find a nugget.

My Indian Runner ducks were allowed the run of the place, as they never did any mischief. I noticed them picking up little pieces of charcoal near the out-door fireplace, where the big kettle was boiled and old boxes were used for firewood. One morning I found a large duck dead. A post mortem examination revealed an enormous gizzard, and that being dissected showed one large nail which had perforated the inner skin, four smaller nails, some bits of wire, two double-pointed tacks, one carpet tack. Some of these were imbedded in the gizzard and had formed pockets in it. The ducks had always been supplied with plenty of river sand, but this duck had an ostrich's appetite and lost her life in consequence. New, shiny tacks have a great attraction for ducks and hens especially, if they require grit, The grit should be sharp, with three sharp edges. Grit that is round or worn does not grind properly.

* * *

ANSWERS TO QUESTIONS.

Short Cuts to Profits.—One correspondent asks: Will the selling of eggs alone pay? Say at market prices, and some for setting? Can eggs be used for

hatching next spring from hens hatched this spring? or now? Can you describe how you select eggs for hatching? We have just leased an incubator from a neighbor. One person told us not to put it in the house as, no matter how much pains we took we were liable to burn up. Is the danger from fire very menacing? We have been trying to increase our flock of chickens this spring by the old method, setting hens; we have not a large number of chicks, but there are a good many cockerels. Would you kindly write me just how you fatten such chicks quickly for market, just what and how you feed. I read what you wrote about the French method of stuffing with tubes. It struck me as rather disgusting. Now we know you are employed by the Cultivator and answer questions through that, and so much has been written about poultry of late almost every one is going into the raising of chickens, more or less. There must therefore, be some short cuts, some methods used, not told through the papers, to secure profits. How do you feed? Where can one buy at wholesale? And what are the minimum quantities one can buy at wholesale rates? Which is best to give the hens and chick, clabbered milk or sweet skim milk—H., Redlands.

There is no royal road to success in the poultry business, nor any satisfactory short cuts to prosperity in that business: if there had been I surely would have discovered them, for I worked hard enough and studied early and late, and I surely would have given the benefits of anything I discovered to my friends the readers of the Cultivator. It is just quiet, patient perseverance that wins in the end.

The letter from which I have taken these questions contains nearly sixteen hundred words and the writer says she is often so weary that she has only glanced hastily over the poultry articles in the Cultivator. I will refer you to my description in the Cultivator of April 22nd of how an invalid neighbor of mine became a "sucessful man" and how he sold his eggs, and in the Cultivator of May 13th for the way to fatten fowls. Look up some of your old numbers of the Cultivator for the different ways of feeding. In my article I do not deal with glittering generalities, nor do I try to induce people to go into the poultry business, for it requires hand work, head work and hard work to make a success of it. I try to tell the plain and simple truth of what I have done myself.

To choose eggs for hatching choose smooth eggs, with good shell, not too large or too small, medium size, look through the eggs with an egg tester, and, if the shell appears mottled, reject it, as those eggs rarely hatch. If you use Elaine oil, and trim the lamp in the morning you need have no fear of fire. I kept my incubators in my bedroom, so I had the satisfaction of seeing them frequently and by keeping the window always open the air was pure. Pullets hatched in the spring will lay eggs that can be used for hatching the following spring. You had better not batch any more incubator lots as late as this, because late hatched chickens do not do well unless they have plenty of shade, cool green grass, cool water, and an experienced person to take care of them. They are very liable to have roup in the fall and may infect your whole flock with it.

Either clabbered or sweet milk is good for chicks; it in part takes the place of meat. If you want to succeed in the poultry business you must not leave anything to chance; you must study as well as work and think up new ways and means. I am always glad to help a woman, but cannot rewrite the long discussions about feeding in reply to one letter. The articles are in this spring's Cultivator.

* * *

Turkeys—'I am having trouble with my little turkeys. They stand around with their eyes shut, which seem to be sore, a sort of scum over them and their mouth gets sore at the corners. Could you suggest a remedy?"—C. L. M., Tulare.

Your little turkeys are sick. They probably have lice. See the article on "little things" in this number of the Cultivator. Also follow the directions for raising turkeys in the Cultivator of May 6th. I think, besides lice, they may have taken cold, either from damp grass or a draught in their sleeping quarters, or have been walked around too much by an old hen. In any case add a little charcoal and a little red pepper to their food and correct the condition that brought on the trouble. Little turkeys are much more difficult to raise in California than chickens. They are very tender when young, but are all right after they have "sported the red."

DRY FEED FOR CHICKS.

I have tried feeding chicks with mash, johnny-cake, bread crumbs and rolled oats, with a mixture of bran, middlings and corn meal equal parts, just barely moistened throughout, "crumbly" as it is called. Some feed chicks on hard boiled eggs for a first feed. Did any one ever know of a case on record where the old hen served hard boiled eggs for a first meal. The hen who steals her nest usually has pretty good luck with her brood when the cats, rats, hawks weasels and skunks don't interfere. She rustles up a meal for her chicks of small seeds, grit and bugs; she was never known to mix up a mash. Why should we? It seems to me that a judicious mixture of millet, broken rice, fine cracked corn, grit, bran, groats, cracked wheat, hemp and a few radishes and a little charcoal as a corrective, would be about the proper thing. Now who wants to have a dozen sacks of these different ingredients, bought at retail prices, standing around in the way. It seems to me that with the excellent prepared feed now advertised that it is much cheaper and easier to buy a sack of it. This fed for ten days exclusively, then with a little fine meat meal gradually introduced and fed, combined with some bran in a hopper and cracked wheat for a grain feed will produce fine chicks with no bowel trouble. I raised about 600 chicks with this method last year and did not have one case of bowel trouble. I lost a few from crowding in the brooder and a few from "chick fight," but soon put an end to "cannibalism" by using a simple preparation which stopped it. Another very important point to be observed is that chicks must have plenty of room night as well as day; they must be carefully shut up every night to guard against rats, etc., but they must have plenty of room and plenty of pure air.

Chicks grow so rapidly that they soon outgrow their quarters. Do not crowd or you will regret it.

The stingiest man I ever knew said that the poorest place he knew of to try to economize was on feed for small chicks. A baby's stomach at birth holds about a teaspoonful, it has to fill it; so with a wee chick, a couple of small seeds, a minute piece of grit or charcoal and that suffices for a couple of hours; then a little more and so on. A chick can't grow on air so he must be "tended" to and mildly forced for growth from the minute he is born till he or she is ready for market, breeding or what not.

This statement must not be taken to mean that it should be fed as soon as it comes out of the shell. "No, indeed." The largest and finest chicks I ever raised were not given a thing to eat till 80 hours after they hatched. As soon as all were out of the shell I removed the trays and shells and put in a fount of tepid water and a dish of fine chick grit (granite); this they greedily partook of. Of course, they were not starving, they were living on the yolk of the egg which was taken up into their system the day before they hatched. Highest authorities on this subject are unanimous on this point. The fact that a few of my chicks only died from external causes shows that my procedure was correct in that respect. In conclusion would say if you have not tried dry feed method, commence! You will not regret the change. In order to get good results green stuff must be fed any day after the first five days. Cut up tender lettuce and other tender succulent leaves fine with a pair of shears.—John M. Turner in Fancier's Monthly.

Reduction Sale

Till June 1st all eggs $1.25 from Buff Cochins, S. G. Dorkings or Golden Laced Polish. A trio of Polish (10 months old) for $6.00. Cochin pair and trios, also cockerels. Need room.

HARRY McINTIRE,

27TH AND D STREETS SAN DIEGO, CAL.

Mammoth Bronze Turkey Eggs

At reduced price, $2.00 per 13

Mrs. G. W. Terry Anaheim, Cal.

The West Coast Stock Food Co.

Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.

WEST COAST STOCK FOOD CO.,

PASADENA, CAL.

TAKE NOTICE

When one gets ten to twelve dozens of eggs per day, as I have been getting for about two months past, it counts, but they all go. Just up with orders. Have sold nearly 7000 eggs for hatching purposes, 90% of them W. Minorcas; balance White Rocks and W. Wyandottes. Will continue to fill orders. If eggs from my stock are wanted write to

S. W. MORGAN, SUNNYSIDE, CAL.

MATURED

Standard Bred

Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
S. C. W. Leghorns (Emery Strain)

Only Birds That Have

MOULTED

are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

CAPTAIN MITCHELL

SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

CARRINGTON'S WHITE LEGHORNS

Eggs for hatching from PRIZE WINNING and utility bred stock, by the sitting, 100 or 1000, also breeding stock of all ages for sale. Write for folder giving prize record to

C. B. Carrington Hayward, Cal

FREE! FREE!

The 1904 Catalogue B

Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address

Must Hatch Incubator Co., PETALUMA CAL.

Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

James Hague, Proprietor

350 College St., Oakland, Cal.

Eggs for Hatching

—FROM—

PURE BRED WHITE LEGHORNS

$1.00 per 13—$4.00 per 100

JACOB KREGER

Route 1 - Anaheim, Cal.

"THE BLUE GRANGE" ANDALUSIANS

Won 1st and 2nd on pens, 1st and 2nd on hens, 2nd on cock, 1st and 3rd on cockerels and 1st on pullet at late Los Angeles show. Eggs for hatching reduced to $1.50 and $2.50 per 15. All eggs guaranteed fertile.

MRS. T. R. GRIFFITH

3111 WALTON AVE. LOS ANGELES

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.

LOUIS S. FLETCHER, ANAHEIM, CAL.

READY FOR BUSINESS

Lice and Mites are always ready for business, and for ridding the roosts, houses and old fowls of these great life destroyers, you must use

Lee's Lice Killer

and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is

Devil's Dust with D. to L. Ointment

HENRY ALBERS 315 S. MAIN ST., LOS ANGELES, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display—numbers and quality considered—was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantee

SEND FOR NEW ILLUSTRATED CIRCULAR GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 6435 Los Angeles, Cal.

RANCH: 2½ Miles South of the University Station, on Vermont Ave.
Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena
All Stock is Kept at Ranch Phone: Sunset, State 82

Fancy Poultry From a Utility Standpoint

By Williams Bros., Fruitvale, Cal.

Those breeders who are making a strenuous effort to improve the quality of the poultry being bred at the present time often meet with the remark that—"Oh, I don't care for anything fancy; all I want is eggs." Some years ago a breeder of "fancy" poultry was generally considered by the "utility" breeders as throwing his time and money away on a useless article; that thoroughbreds were poor layers, weak in constitution from incessant inbreeding, and that fancy stock had no claim on the utility advocate. It has taken years to overcome this sentiment to the extent which it has been overcome, however, there are many at the present time, especially those not long in the business, who are laboring under the delusion that the common "scrub" will lay more eggs and is hardier than the high class "fancy" bird. They have no time to waste in breeding for fancy points, as it is only "eggs, eggs, eggs" that they want. We were very much surprised to note from the advertisement of an extensive poultry raiser recently that said he did not pretend to have "show specimens," and that he never inbred, but that his stock was a good laying strain and for this reason he could recommend his product to the purchasing public. In an article written by this same gentleman he took occasion to denounce the system employed by the breeders of "fancy" stock of improving their flock as to color, size and shape, saying that the usual run of "exhibition" stock was good for nothing but to gaze upon in admiration of the beautiful colors. He also volunteered the remark that "fancy" breeders cared nothing for eggs, and that if a prize hen only layed three or four dozen eggs a year they were satisfied just so they could hatch a few chicks from her. How an intelligent man could fool himself to such an extent we are unable to comprehend, for otherwise he seemed to be pretty well balanced. However, an analysis of the subject will show so conclusively that he was badly mistaken, if not wholly deluded, as to leave not a question of doubt of this fact in the minds of any who unfortunately share his old fashioned backwoods opinion.

Take for instance, the hundreds and hundreds of breeders of "fancy" exhibition poultry in this State who are advertising their eggs for sale. They are all clamoring for the prizes at the poultry shows, or if not exhibitors themselves are buying winners, or sons and daughters of winners, and advertising such as being in their breeding pens. Now a very small proportion of the breeders of exhibition stock, who are successful in producing high scoring specimens, are able to supply the demand on them for eggs for hatching, during the hatching season. Is this caused from the fact that their birds are poor layers, or because the demand is so enormous? We can speak from our own experience which is no different from the experience of scores of others and say that during the rush of the hatching season we could not have expected any stock to lay better than have our Brown and White Leghorns. We use only 10 females and one male in each pen of the special matings, and many and many a day gather as many eggs as there are females in a pen, the whole number of pens averaging up way beyond what any "utility" breeder would dare to claim for his flock. Our birds in larger numbers also rate very high but not quite up to the individual matings. We confess that we are "fanciers" and our trade in stock and eggs is nine-tenths from fanciers, and as our efforts in breeding are in the direction of producing strictly high class show specimens we get a corresponding price for such stock and eggs. This being a fact, does it look to the reasonable, intelligent and fair minded person who is selling his "utility" eggs at this time at 17 to 20 cents per dozen, that we who are getting from $2 to $5 per 15 for our "fancy" eggs do not care whether our birds lay or not? Do we care exclusively for color, that suits the admirer of the beautiful to the exclusion of all utility points in our stock, when the orders are coming in every mail for eggs at these fancy prices? Well, if we know ourselves we must say most emphatically that if it is "eggs, eggs, eggs" the "utility" breeder wants, it is "eggs, eggs, eggs, eggs" in the largest possible quantities that we want. What profit would there be in the "fancy" poultry business if stock bred up to exhibition qualities was at a low ebb in utility points, poor layers, etc? Nothing would discourage the fancier so quickly and in fact disgust him as to find that his show birds were poor layers. An egg from an exhibition bird may produce a specimen worth anywhere from $1 up to $50 or $100, while the "utility" egg cannot produce better than a 30 to 60 cent bird, yet the man who is breeding for "utility" alone would have the public believe that the "fancy' poultry breeder was an advocate of everything excepting that which goes to make up utility points in his flock. This foolish idea is rapidly becoming extinct as it should, nevertheless there were so many who had little faith in the laying qualities of the "blue-blooded" thoroughbreds that there was a great sentiment to be overcome.

* * *

Now, as to the relative merits of the poultry as bred by the fancier and the utility breeder, we wish to say most emphatically that no feature of the business has been given greater attention by the fancier than that of increasing the egg-laying qualities. We can say from a long experience that our finest exhibition females are almost invariably the best layers. We cannot recall a single instance where one of our prize exhibition females was a poor layer. For years we have endeavored to build up a strain of Leghorns of large size, and at the same time increase the size of the eggs and the number of them, and by careful line breeding we have been wonderfully successful. As an instance of what can be done by careful and intelligent mating and breeding, we point to the S. C. Brown Leghorn hen "Idol" whose half-tone cut appears elsewhere in this issue. This hen as a pullet won First Prize at Los Angeles; as a hen has won first twice at the State Fair: first once at Oakland; first at Roseburg, Ore.; first at San Francisco, and we sold her last December to a prominent New York Brown Leghorn specialist for $40, to exhibit at New York. She weighed 6¾ pounds, and was the finest colored and best hen (but one) we ever raised or saw, and in the face of this was the best layer in our whole stock. Several of her daughters are first prize birds, and the same characteristics were transmitted to her progeny. This hen was line-bred, and we could trace her breeding back for years. Not one self-professed "utility" breeder in a hundred pays as much attention toward increasing the egg producing qualities of their flocks as do the breeders of "fancy" stock. By the term "fancier" we refer to those breeders who breed only pure-bred fancy stock.

* * *

It has been demonstrated time and again that by simply using a well-bred thoroughbred male on common hens the progeny will be superior to the parent stock in egg-laying qualities. The past few years scores and scores of breeders in this State have discarded their common mongrel stock and started in again by purchasing eggs or stock of a pure-breed, and we have yet to hear of that breeder who has done this who was dissatisfied with the change. Almost invariably the egg yield has proven very much heavier,

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16-page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

Homer Pigeons
FOR SALE
I have 7 dozen of Homer Pigeons, from the best stock to be had from Boston, which I will sell at $1.75 per pair.
R. M. Burney, Redlands, Cal.

Golden Laced Wyandottes
Eggs of Ideal Strain. 15 Eggs, $1.00
Mrs. Frank Wood, R.F.D.2, Compton, Cal.

BARRED PLYMOUTH ROCKS
THOMPSON'S RINGLET STRAIN
Some extra fine cockerels for sale. Eggs, $2.00 per setting, $10.00 per hundred.
A. A. Clapp - Alhambra, Cal

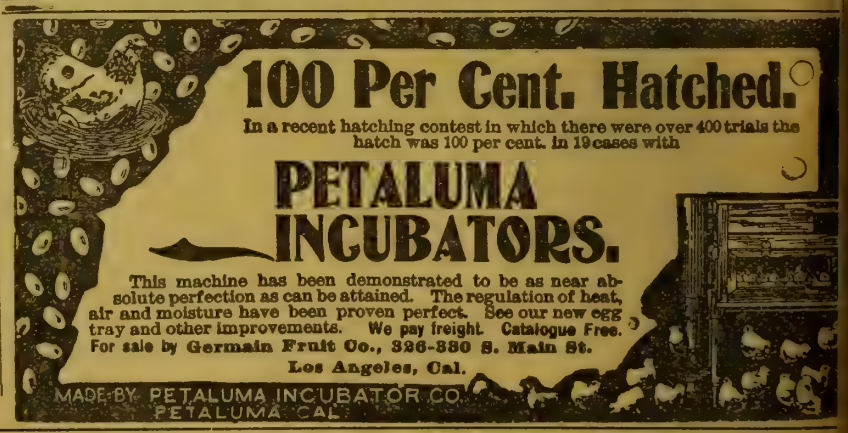
Black MINORCAS White
BIG WHITE EGGS
80 to 90 per cent fertile; 75 per cent guaranteed. White Minorcas $1.50 per 14, Black Minorcas $1.00 per 14; $6.00 per 100.
CHICKS FOR SALE AT 15 CENTS EACH
MRS. F. T. HUNGERFORD, 202 S. Grand Ave. Los Angeles, Cal.
"Willard" Poultry Yard Home Phone 3534

Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00 Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
757 N. LAKE AVE., PASADENA, CAL

EGGS FOR HATCHING
From good, strong, healthy
S. C. White and Brown Leghorn
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
T. E. Mills - Lordsburg, Cal

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations.
Don't believe all we say, but just enough to buy our Poultry Food
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal

SAVE THE CHICKS
Peerless Chick Feed is the best balanced ration of pure, clean seeds, grains, meat meal, charcoal and grit known to the poultry breeders. The benefit derived by its use is marvelous, and is endorsed by all who have tried it. Prices: 100-lb. bag, $4.00; 50-lb. bag, $2.00; 24-lb. bag, $1.00; 5-lb. package, 25c.
HENRY ALBERS, 31 S. Main St., Los Angeles


100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL.

There May be Other Chick Feeds, but People Do Not Want Them

I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.

The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.

Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.

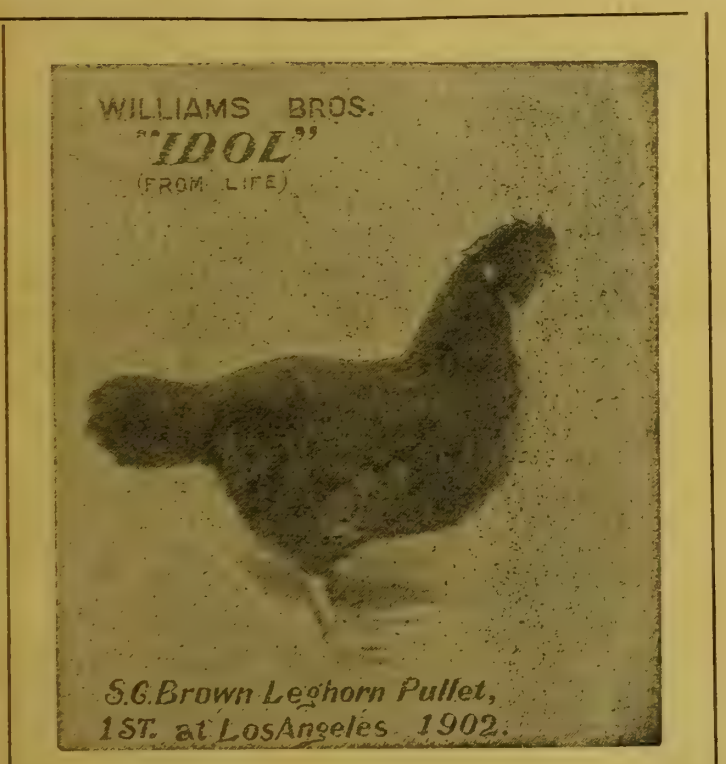
GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

and it is now a generally acknowledged fact that the more carefully bred a flock is, the more eggs it will yield. The scientific mating and rearing of poultry has accomplished wonders, and at the present time specimens almost faultless are to be seen frequently. We reiterate the fact that those fowls which are most carefully bred from a fancier's standpoint are the most valuable from a point of utility also. "Fancy" and "utility" should go hand in hand, and this is the case with all correctly bred flocks. The "fancier's" eggs are too valuable for him to allow them to be scarce, and it is to his interest to develop the best layers he possibly can. He never loses an opportunity to improve his stock, and as it is just as easy to raise first class as inferior stock and costs no more, the results being so much more satisfactory, it is foolish for any one to continue with mongrel stock.

This prejudice against "fancy" poultry is ridiculous in the extreme, for it has been conclusively proven to all fair minded and intelligent breeders that pure-bred stock is infinitely superior in every respect to the mongrel. From the standpoint of profit which is so important to those who are making a business of poultry, the fact cannot be ignored that the right kind of pure-bred stock will lay more and larger eggs than mixed poultry bred in a haphazard way. Do our leading dairymen who wish to increase their supply and quality of milk rely upon scrub stock to do this? Not much. They use every possible means at hand to introduce the finest blood they can procure. The highly bred Jersey is much in demand for this purpose, and official tests frequently made prove that the thoroughbred Holsteins and Jerseys are as much superior to the ordinary run of common dairy stock as to double the profits, and often triple and quadruple then as compared with the profits from the inferior common dairy stock. The situation and conditions are no different when applied to thoroughbred poultry. The hundreds of people who each year are taking up the breeding of pure-bred or "fancy" poultry is evidence sufficient to show that they are convinced they are on the right track.

We contend that the highest class exhibition specimens as a rule, and not as the exception, possess the greatest "utility" points, and these qualifications combined—beauty, vigor in addition to utility, commend the pure-bred "fancy" stock to all breeders, and the wise course to pursue is to select that variety which you fancy most, if it has a standing reputation among the great egg producing varieties, and take up the breeding of "fancy" poultry which really possesses more "utility" than one can comprehend until he has made an intelligent investigation of this matter.

Years ago before scientific methods were known, which have since been adopted, there was a great deal of inbreeding done which was injurious to a flock, and more attention was being paid to fancy points in a bird than utility, but that has all changed and the fancy breeder who at the present time does not pay so much attention to utility points as to fine colors and shape should be relegated to ancient history and passed up as not entitled to residence in this enlightened age. The "fancier" who is the right sort is also the strong champion of "utility" points.



UNUSUAL EMPHASIS NECESSARY

"Willie, dear," his mother said, "I wish you would go out and see what all that racket in the next block is about."

Willie went away and returned half an hour later with the desired information.

"There was a deaf and dumb couple married down there this evening," he said, "and the boys is trying to shivaree 'em accordin'.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

Is a good book, well worth the subscription price. Every person handling chickens will get valuable pointers by reading this book, which tells in a short, concise, practical manner the best method of raising and marketing chickens and eggs. Sent postpaid to any address for $1.25.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

WHITE PLYMOUTH ROCKS

If you are after first-class White Rock eggs, you ought to see my stock before buying. Send for a circular if you cannot call. Closed Sundays.

Chas. T. Youngken,
151 E. AVENUE 55, LOS ANGELES, CAL.

HATCH IN SEASON—NOW

Selected Eggs, Guaranteed First-Class, $1.50 per Setting of 13

S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS

Eleanore Poultry Ranch

1½ Miles East of Glendale **P. O. Address, Garvanza**

Incubator Chicks Hatched to Order

NO MORE LICE
after using
PRUSSIAN LICE KILLER

NO SICK CHICKS
when you feed
CHAMBERLAIN'S CHICK FEED

PLENTY OF EGGS
by feeding
DARLING'S BEEF SCRAPS

DISTRIBUTING AGENTS

GERMAIN SEED CO. 326-330 S. MAIN ST. LOS ANGELES

First-Class Incubators and Brooders

The "PACIFIC" is the most sensible Egg Hatching Machine yet invented and does its work perfectly without a nurse or night-watch. Send 4c for my 70-page Catalog No. 2. It tells all about them and has other practical matter on poultry raising, poultry houses, etc,, which makes the book worth a $ to anyone who keeps a dozen fowls.

Mr. Wm. B. Dean, Los Angeles. Stockton, Cal., Dec. 16, '03.
Dear Sir—Have just finished first hatch with my No. 1 Pacific and secured 52 nice, strong chicks from the 62 eggs placed in the machine. Never used an incubator before and am delighted with results, also with my incubator. Yours truly,
Mrs. A. N. Zumwalt.

Address **Wm. B. Dean,**
929 E. 25th St. **Los Angeles, Cal.**

Winning White Plymouth Rocks

Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY

$25

Given away. We will give $10 in GOLD for the best picture of Little Chicks that are being fed on COTLSON'S CHICK FOOD. We will give $5 in GOLD for the best picture of Hens that are fed on COULSON'S EGG FOOD. $1 each for the next 5 best pictures of poultry fed on Coulson's Food. Address Advertising Department

$25

A. R. Coulson Co., Petaluma, Cal.

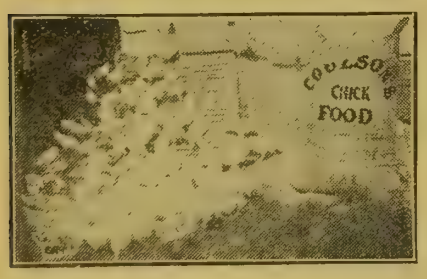
Millions of Little Chicks Are Raised on Coulson's Chick Food.

In January we advertised that we would give $25 as prizes for the best pictures of Chicks raised on Coulson's Chick Food and that we would award these prizes about the 1st of May.

The first prize was awarded to John McDonald at Marshalls, Marin county, Cal. (See illustration.) Mr. McDonald has a big poultry farm and raises all the chicks on Coulson's Chick Food. He uses so much feed that he buys Coulson's Food by the carload and the railroad switches the car off at McDonald's sidetrack, which runs right into the McDonald ranch.

Mr. McDonald also has a large feed mill for grinding grains and feeds of his own, but Mr. McDonald finds it pays him better to buy Coulson's Chick Food already prepared because Coulson's Chick Food is a blending of grains, seeds and meals that gives wonderful success in raising chickens.

Mr. McDonald will probably raise between 6000 and 7000 chicks this year. The way Mr. McDonald feeds Coulson's Chick Food is as follows:



One lot of chicks one week old, fed on Coulson's Chick Food.

The first four days the Chick Food is fed dry, scattered around in the chaff on the brooder house floor and fed about 6 times a day. After the chicks get four days old, the Chick Food is moistened with milk into a crumbly state and fed four times a day. After the chicks get to be two months old they are fed Coulson's Egg Food the same as the hens and fed three times a day.

The second prize was awarded to A. J. Bloom. (See illustration of young chicks in the brooder house.) Mr. Bloom owns one 775-acre poultry farm with 11,000 fowls on the place, and he is also interested in other large ranches, and he will no doubt, soon start at Petaluma another poultry plant, which will be the largest in the West, for raising broilers and fryers for the San Francisco market. Mr. Bloom buys Coulson's food by the carload, 15 tons at a time.

Mr. Bloom is one of the most successful poultrymen and he makes big profits from the poultry business.

Mr. Bloom has experimented with all kinds of Chick feed and has found out to his own satisfaction that Coulson's Chick Food is positively the best feed for the successful raising of chicks.

Coulson's Chick Food has distanced all competition.

In raising the finest chicks, feed is half the trick. To know what and how to feed chicks for best results requires study and attention. Coulson's Chick Food fills all requirements.

Profit by the experience of others. The largest and most practical poultry raisers have the greatest success with Coulson's Chick Food.

Here is a letter from Arroyo Grande:

Arroyo Grande, Cal., April 28, 1904.

A. R. Coulson Co., Petaluma, Cal.

Dear Sirs:—I have traveled around the world several times and have been in the poultry business in foreign countries, including England and Australia. I have used all kinds of poultry foods, but never before found anything that will begin to compare with Coulson's Chick Food for young chicks.

I have raised over 95 per cent of the chicks to maturity and the pullets laying at 4½ months. I have never seen chicks grow so fast and mature so early and will never use anything else but Coulson's Poultry Foods. Yours very truly,

G. H. BROWNSON,
Arroyo Grande, Cal.

Most all feed stores sell Coulson's Chick Food. Factory price, $2.20 for 90 pound sack.

Price in other towns will be a little more, according to freight.

(To be continued.)

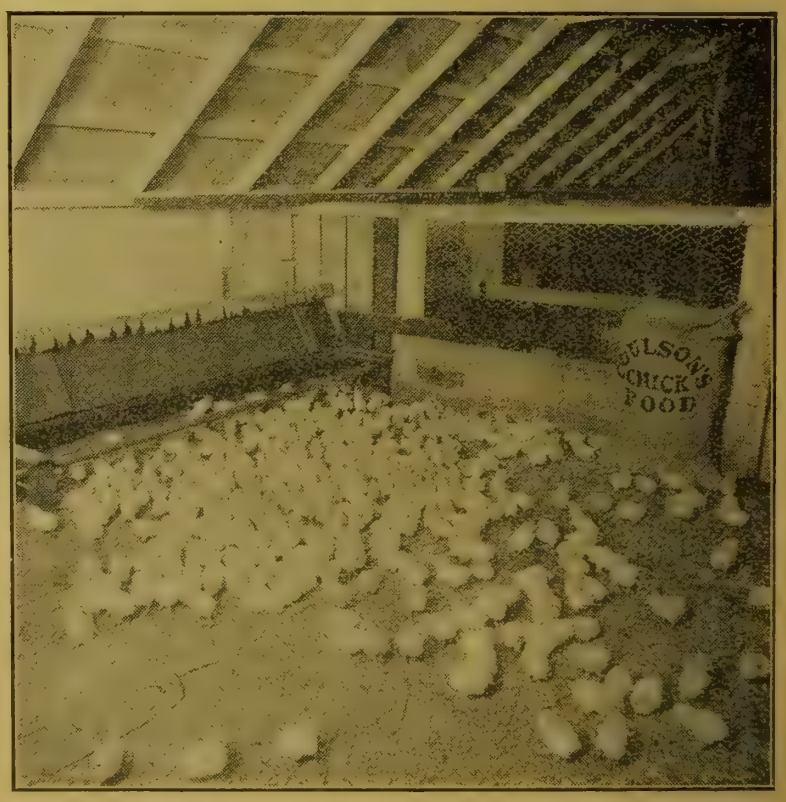
AWARDED FIRST PRIZE, $10 IN GOLD. TEN WEEKS OLD CHICKS RAISED ON COULSON'S CHICK FOOD

On John McDonald's place. Pullets 10 weeks old raised on Coulson's Chick Food. Mr. McDonald has many more like these. All the chicks are fed on Coulson's Chick Food exclusively until they are about 2 months old, then they are given Coulson's Balanced Ration the same as the hens. Mr. McDonald buys Coulson's food by the car load.

If Mr. McDonald can raise chicks like these by feeding them Coulson's Chick Food, why not you?

Suppose you give Coulson's Chick Food a trial. It will not cost you but a trifle more than other feed and the way it makes chicks grow is marvelous.

Coulson's Chick Food contains everything needed to fully nourish the chicks and by feeding Coulson's Chick Food you will be able to sell off the broilers from 2 to 3 weeks earlier than you would if you feed them on common feed.



AWARDED SECOND PRIZE, $5 IN GOLD.

Interior of one of the brooder houses on A. J. Bloom's poultry farm, showing 500 little chicks four days old that are being raised on Coulson's Chick Food. There are 500 more on the other side of the partition in this same house. Notice the nice, healthy appearance of the chicks.

Mr. Bloom says Coulson's Chick Food is positively the best food for little chicks. Mr. Bloom has tried all kinds of Chick Food from all over the United States, he having plenty of money, has never hesitated in buying any kinds of feed that were good for chicks, no matter what the price, and after experimenting with all kinds of Chick Feeds, Mr. Bloom now feeds Coulson's Chick Food. Mr. Bloom says there is no doubt about it. Coulson's Chick Food beats them all. Coulson's Chick Food keeps the chicks in the healthiest condition and raises the most and nicest, largest chicks.

THE A. R. COULSON CO.
PETALUMA - CALIFORNIA

General Agriculture

WEALTH IN IRRIGATION.

There is probably no country in the civilized world where the value of water is more thoroughly esteemed than in Southern California. This is true because the rainfall is not over plentiful, often short, which makes water difficult and expensive to get.

The wonderful changes wrought in Southern California in the last few years and the growth of values both real and personal are due to the introduction of comprehensive methods of irrigation and conservation of water. Intelligent observation has done much to determine the methods which, when practically applied, have brought into use thousands of acres of land heretofore without special value. In a letter to the Minneapolis Times, Guy E. Mitchell discusses the possibilities of California under a State wide system of irrigation.

It is claimed that the great San Joaquin valley in Central California is equally rich in natural resources and has besides in the Sacramento river a limitless water supply to irrigate millions of acres.

Yet, because the San Joaquin has rainfall, no irrigation has been developed and the land is planted to vast fields of wheat, resulting in an entire lack of settlement of the valley, whereas the region around Los Angeles, having practically no rainfall, has become so thickly settled with a prosperous, energetic class of people who are making it one of the most wonderful regions of the United States.

Los Angeles is simply an instance of where adverse conditions have actually forced development. This is often possible where the active factor of development is the pushing, aggressive American. Under the old Spanish regime, Southern California would be today where she was at the time of the Mexican conquest.

All this good coming out of supposed evil or misfortune can be seen in a still different phase in this same locality.

The last five years have been very dry ones. Many water sources have failed. I do not remember the figures but I think what was considered in earlier years an average annual rainfall for Los Angeles was 15 to 17 inches. The last few years it has ranged 7, 8 or 9 inches, so that ditches and canals have largely failed. About the third year of the drouth the fruit growers said:

"If we do not get rain the country is lost." They did not get it and yet this fact has proved the greatest blessing to their industries. Giving up in despair the idea of getting enough water out of the mountains, they commenced boring and pumping tests to try and save their orchards.

The result has been a marvelous underground water development everlasting in supply and easily controlled. Twelve thousand acres of oranges at Riverside are irrigated from underground waters. Water was found in many places where it has been said there could be no water.

It seems strange that just south of Southern California, where water is so precious, in fact still in Southern California, a great river runs to waste which would irrigate 10,000,000 acres—the Nile of America—the Colorado river. But the diversion of its waters is a great engineering problem and but little has been done thus far to utilize them. Eventually they will doubtless be all spread out upon the land and produce enormous crops, for we are just at the threshold of irrigation in America.

The orange orchards of Southern California begin to bear if well cared for, at four years from transplanting. When they are 12 years old they may bear 300 boxes of oranges to the acre, which will likely net the grower $300, and if his orchard is well located and not subject to frost, he will probably hold it at $2000 an acre. An enormous figure, yet warranted by the returns. But on the other hand many acres, through mismanagement and poor location, barely return expenses. The soil of Southern California is rich and this fact, it seems, is not proving an unmixed blessing to the people.

They have not apparently given exhaustive study to the fertilizing question. Many of the old orchards are not producing as vigorously as the smaller trees where the soil has not been depleted. The growers do not seem to expect so much of an old tree.

As a matter of fact, age should be no bar to an increasing yield until the orange attains its full growth and the foliage interlocks in the rows.

In Florida the growers apparently understand feeding the trees better, and, again, for the same reason that has in general built up Southern Californit. The Florida orange grower has no soil, so to speak. He plants his trees in almost pure sand, and so has had to make a close study of supplying them with food from the start.

In a crop so intensive and valuable as the orange or lemon, the question of the cost of fertilizer does not really enter. Half a ton to the acre is a large application in California. A ton to the acre is not unusual in Florida.

Irrigation begets good cultivation. The old way was to flood on the water, after it had sunk into the ground run the cultivator over lightly and then in a short time irrigate again. This left the roots at the surface and necessitated the use of much water. Now better results are obtained by three, four or five good soakings, followed by a deep and continual stirring of the soil. The orchards of Southern California are as clean of weeds and as smooth as a kitchen garden in springtime, ready for planting.

The Pacific Coast, it occurs to me, never will be much of a manufacturer. It has not the wealth of power found in the east and it will, at least for many years to come, devote its energies in other directions and buy its factory products from New England, the south and the Mississippi valley.

In the reclamation of these vast arid areas it has before it the task of a Hercules, a task of pleasure, too and great profit.

But as this work goes rapidly on, through combined private and government enterprise, the east will discover some day that its capacity is being taxed to supply the needs of this young giant, that factories must be enlarged, that more hands must be employed. Then the eastern farmer will be called upon for more food supplies and he will receive his share of the general prosperity.

ASPARAGUS BEDS.

Editor Cultivator: Will you kindly tell me the best way to care for an old asparagus bed; also how to start a new one?—Chauncey Sheldon, Lordsburg.

The following is from S. J. Murdock, in California Vegetables:

The rows should be four feet apart and the plants eighteen inches from each other in the rows, and even more room would be better if the land is not too valuable. After the ground is well plowed and finely harrowed, mark out the rows the desired distance apart with a plow by going twice in each row, throwing a furrow each way from the center of the row, and from eight to twelve inches deep; then go one or more rounds in this with a cultivator, closed up, so as to loosen up the soil well in the bottom of the row. If you have any fine fertilizer put it in the row when you want to set the plants; mix well with the soil and set the plants over it. Place the plants in the bottom of the prepared furrows, spread out the roots and cover crown and all about two or three inches—the lighter the soil the deeper the plants should be placed—so as to secure the proper moisture till they begin to strike root. After the planting has been done, take a light steel garden rake, or, if the rows are even enough, we would prefer the wheel hoe with the rakes on, and stir the soil the whole length of the rows. Then, when the shoots begin to grow and show themselves three or four inches high, the soil should be gradually hoed or cultivated to the plants till the surface is level. The ground should be kept moist, and in most localities irrigation will be found necessary to secure the best results. Do not neglect thorough cultivation, but after the roots begin to fill the ground do not work too deep, as there is danger of injuring them.

In the fall or early winter, when the tops have turned brown, the ground should be cleaned and all rubbish burned, for if delayed the seed will drop and get scattered, which will come up and may prove eventually to be the worst weed the grower will have to contend with, for if allowed to grow after once started it will soon fill the whole ground with a mass of roots, and very soon spoil the whole patch. As soon as the ground is cleaned the whole field should be well cultivated and coarse manure spread over the entire surface, so that the rains can dissolve and carry down the soluble plant food to the roots. As the period of rest here in our mild and warm winters is very short, with this strong and persisting plant, no delay should be indulged in furnishing the necessary plant food.

A hint to California fruit growers with regard to methods of disposing of their crops that are not infrequently a loss is afforded by an item from the New York Times, describing certain new delicacies recently found in that market. One is a preserve called "orangeate," which is merely an orange jelly with thin slices of the fruit imbedded in it. It sells at 25 cents a half pint or glass. Another is ripe figs put up in Maraschino and selling at 75 cents a pint, or preserved in brandy at 65 cents a pint. At such prices there should be a good profit for the packer and an outlet for a large amount of fruit.—Alameda Encinal.

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Yours truly,
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THAT TALL GLASS JAR.

The country store I used to know comes back to me today
In rising tides of memory that sweep the years away.
I see its weather-beaten front, the dingy window panes,
The sugar scale, the letter box, the floor's tobacco stains,
The jumbled stock of groceries in package, pail and bar,
And, best of all, I see once more a tall glass jar.

This jar was filled with candy sticks, a goodly sight to see,
And better still to nibble at—that joy still stays with me.
Sweet peppermint and wintergreen, hoarhound and cinnamon.
Vanilla sticks like barbers' poles—I loved them every one.
Molasses, too, and chocolate, and toothsome peanut bar;
I see them all in my mind's eye in that tall glass jar.

Life's brought me many pleasures as the years have slipped along;
Far more of sun than shadow, little sighing, much of song.
I've seen the sunlight splendor on the lordly hills of Rome,
Had luck in love and business when I've stayed right here at home.
But never felt an ecstacy as great as when my ma
Would pass me out a nickel for that tall glass jar.

In Paris at the grand cafes I've dined with much delight.
Beneath blue skies in sunny Spain I've quaffed their vintage bright;
I've eaten pate de fole gras to tempt a gourmand's heart;
I've played at M. Delmonico's old Epicurus' part.
The menu's choicest edibles I've tasted near and far,
But none could match the candies in that tall glass jar.

I'd give ten thousand dollars just to be a boy again
One single day, and puddle, barefoot, in the summer's rain;
Just to run my mother's errands to that little dingy store,
With glad anticipations tingling to my being's core.
No cloud on the horizon my sheer happiness to mar,
Munching sticks of striped candy from that tall glass jar.

—Charles Earl Walters, in Chicago Record-Herald.

A Farmer's Daughter.

"Mother, I've made up my mind to do something, I'm going to the World's Fair!" exclaimed Helen Mayfield one bright morning in early winter.

She stood at the sink washing the breakfast dishes, clad in a blue calico dress, her sleeves rolled up, showing the white rounded arms.

"My goodness, child, what a notion! How in the world could you?" said her mother.

"Well, I am, mother, I've made up my mind to go, and have it all planned out. I've never been anywhere on a pleasure trip, and you know Aunt Helen has written asking me to come and visit her and take in the Fair; and father is going some time in June and I can go with him."

"But, my dear child, where will you get the money? It seems foolish to even think of such a thing. There is your railway fare, and you would have to get a lot of new clothes," said Mrs. Mayfield, doubtfully. "And as for father going, you know the association pays his expenses."

"Yes, I know, but if you don't object to my going, I'll get the money all right. I've got it all figured out. It doesn't take so very much to go to the Fair and back, and as for clothes, the few new ones I am compelled to get, can be plain, but substantial, and I'll furbish up what I have. One doesn't need to be so awfully fine. Now, mother, you let me manage, and you will see what you will see." And she kissed her mother affectionately as she tied on her sunbonnet and sallied out to the garden to get the vegetables for dinner.

"Poor child, it is a shame that she (and the other children, too) have so few pleasures. They must miss every thing. That is one objection to the farm, there are no amusements for the young people. I don't see how she expects to get the money, but, of course, I don't object to her trying, and there's one thing sure: if Helen makes up her mind to do anything she generally succeeds," thought Mrs. Mayfield. She pressed her toil-worn hands to her head a few moments and allowed the churn dasher to stand still.

Oh, the many, many times she had longed to go to the San Antonio or Dallas Fairs, or to most anything, but there had never been money enough. She had seldom mentioned such a thing to father, for he had so many cares and responsibilities, his loving, faithful wife would be the last one to add another.

Many times Mr. Mayfield had told his wife, "Now, Mary, when we get fixed up a little, I mean that we shall enjoy life a little. We'll go around and see the good things of this life." But somehow the years had passed on, and the family had increased until there were seven hungry mouths to feed, seven to buy clothes, books and shoes for, and it seemed there was always a dozen places for every dollar. They had managed by skimping and saving to send Helen to college, and she had graduated in music at eighteen, her ambition being to teach music. She had a small class, and had a few dollars saved up. She had planned to help her father send her brother Fred to the university where he expected to take a course in surveying as soon as he finished with the public school.

The next morning at the breakfast table Mr. Mayfield said to his wife, "Mary, I'm going to Houston today on the afternoon train on that business for the association, you know. Is there anything you want me to bring you?"

"Yes, there's a few things for the girls, Louise and Florence need some school dresses, but I'll make out a list of what I want."

Mrs. Mayfield arose and hurried into the children's room to settle some difficulty between Mark and Frank, the twins, and help them get off to school.

"Father," said Helen, "I want to get you to do an errand for me. I was wondering how I could get it done."

"Well, Puss, and what is it? Some more instruction books or some new music?"

"Neither; I want you to go to Mr. W's., the florist, and see what you can get me some small pots for. The last time I was there I saw a lot of them, and he did not seem to have any use for them. If you can get them cheap enough, say about $5 per thousand, please order me two thousand and have them expressed to me. And then I want you to get me a bolt of heavy, unbleached domestic, I suppose it will be about 8 cents per yard, and father, can you let me have that old lumber pile out there?"

"Why, yes, child, but what are you going to do?"

"Well, I'm turning farmer, if you will let me have an acre of ground, and I know you will," said Helen; "I tell you, father, I'm going to the World's Fair with you."

"Why, certainly, you can have the ground, Helen, but you had better be saving your money, if you are thinking of going to the World's Fair. I suppose you know the association is paying my expenses, and you will have to pay for those things, for you know I cannot," said Mr. Mayfield a little anxiously.

"I don't see what you want of all that canvas."

"I suppose she's going to rig up a 'sloop' and sail up there the next wet spell," said Fred, banteringly. Secretly Fred admired his sister more than any one, but as "lord of creation" must needs tease her.

"Oh, Fred, that's getting old, and this has been a lovely winter, so far, I'm sure."

That evening Helen searched the best farm papers for the name of a reliable seed firm, and sent out by the next morning's mail an order for "one pound of the best cucumber seed for early market gardening."

The next morning Helen donned a short skirt and getting hammer and nails attacked the lumber pile. It was old and some of it unfit for any use, but by night she had sorted out such as she could use and had constructed one seed bed frame. By the time the seeds arrived she had them all ready, the earth thoroughly spaded and enriched with well rotted manure. The seeds were carefully planted in the little pots and these were planted in the frame. The object of this was to keep them from drying out. The canvas was tacked on and arranged to turn back on warm, sunny days, to admit air and sunshine. Nothing remained now but to see that the covers were down during cold snaps, the beds watered once in a while with warm water.

In the meantime the ground was got ready. Helen paid Fred $1 per day to do this. The time came round when danger of frost was past, the plants were almost ready to bloom, and required a great deal of care to transplant them.

Oh, how Helen worked with those cucumbers! How her back ached, first with the transplanting and afterwards with the hoeing.

But nature smiled and she was soon rewarded with a nice lot of cucumbers, the first bringing the (to Helen) fabulous sum of $1.50 per dozen.

It is needless to relate how she scanned the papers for the names of reliable commission men in good markets, nor how she watched the post-office for "returns."

When the last returns were in, and the expense of growing, packing and crate material all deducted, she had just $125.70.

"There, mother, what do you think of that?" What do you think now about my going?" exclaimed Helen, emptying the contents of her purse into her mother's lap.

'Well, my dear, I wouldn't have believed it. Indeed you have done well," said Mrs. Mayfield, with shining eyes. "And now, Helen, my daughter, we will see about getting your outfit ready. Let's see, this is the 31st of May, and your father starts the 15th of next month, that leaves about two weeks, but I'm sure we can manage."

It was a very hasty two weeks that followed, brushing, turning, laundering and packing up.

Two days but one before the day of departure, Helen, triumphant, self-satisfied, but very tired, went into the little parlor to rest and muse awhile. Her mother's room was just above the parlor, the windows above and below were open, and soon the sound of her mother's voice talking softly to three-year-old Harry, became audible to Helen. At first she did not notice, but the words, "Never in my life, Harry, darling, never," caught her attention.

"Oh, I know I am selfish, my baby, to even think of such a thing, and sister has worked so hard, it looks like I begrudged her this pleasure, but that isn't it. I have longed all my married life to visit sister Helen, and never could, and I have never been to a fair, little Harry, in all my life, and don't suppose I ever will." And she gave a little smothered, hysterical laugh, smothered, Helen knew, in Harry's chubby little neck, where mother always kissed him.

"But, baby," the patient voice went on, "You mustn't tell them, you know. I wouldn't have them to know how

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I long to go for anything in the world, and there's no use in my wasting my time in foolish repinings. If there was plenty of money it would be different . Oh, well, I suppose we all have our weak spells, but papa and Helen must not know of this one, that's sure. But, oh, I do wish I could go so much."

"And she shall go, too," said Helen, grimly to herself, as she banished the tears from her eyes, and slipped out.

"To think of my unmitigated selfishness never to think of it. But you shall go, my blessed mother, or you never rocked Helen Mayfield to sleep."

She ran to the barn where her father was busy unharnessing old "Kit."

"Father, I want to tell you something, mother is going with you, but it must be a secret, for she never would consent if she knew. I've made up my mind; you know mother and I are the same size, and she can wear my clothes, except the hat, and I'll get that in town the day you start. Poor mother, and to think we never even thought of her in all this time."

Mr. Mayfield hung up the harness, and turned and took Helen in his arms.

"God bless you, my daughter," he said with shining eyes, "I have thought of her but did not see any way."

"Father, she will never consent to go unless we fool her into it, and we must do it. I can take care of the children, and Fred and I can manage everything."

"What are you two plotting about?" cried a voice behind them gaily, and turning they saw Mrs. Mayfield calm and smiling, with no trace of her recent "weak spell," visible.

"Oh, about the Fair, mother," said Helen. The day for starting dawned at last. Mrs. Mayfield was persuaded to dress in her best dress and last year's bonnet and go to the station to see them off, Fred going along to drive his mother home. She kissed the children, Helen and her father said good-bye all round and they were off. In town Helen coaxed her mother to accept a new hat, a pair of gloves and a light wrap.

"As a parting gift, there's plenty of money left," she said gaily, in answer to her mother's protestations. There was just time to check the trunks and get the tickets before the train pulled in. Mr. Mayfield held a valise in one hand; the conductor called, all aboard, Mr. Mayfield took his wife's arm, hasty good-byes were said.

"Enjoy yourself, mother, its all right, we'll take care of ourselves," said Helen with a double meaning, as she gave her mother a lift and Mr. Mayfield half dragged her up the steps. Mrs. Mayfield noticed with consternation that the train had started; she looked down, saw her daughter standing on the platform, smiling and waving her hand, and she understood—the look of happiness on Helen's face was enough for her and she smiled through her tears as she waved her hand.

"God bless her," she murmured softly to her husband.

"I say, Helen, you're a brick," said Fred, as they drove homeward.— Mrs. A. Holbert, in Farm and Ranch.

Prospecting for water in the big El Cajon valley, twelve miles from San Diego, has resulted in finding a surprising flow of water. It is thought an underground flow has been tapped.

RECIPES

Eat Little, but Have That Little Good

RECIPES FOR CHERRY DISHES.

Cherry Charlotte.—Pit fresh cherries to make a quart, sweeten, and put in basin on the back of the range to heat. Butter some slices of light stale bread, first trimming off the crust. Butter a pudding dish, and fit a layer of buttered bread on the bottom. Pour over it some of the hot fruit. Repeat until the dish is full. Let it stand until thoroughly cold with a weight on the top. Turn out and serve with cream.

* * *

Cherry dumplings may be either baked or boiled. For the former, make a light biscuit crust after the recipe that comes with the baking powder. Roll the dough out a quarter of an inch in thickness and cut in squares large enough to hold several cherries, stoned or not, as preferred. Sweeten, dust with flour, and fold the pastry over the fruit, lapping the four corners at the top and pressing down firmly. Place in a well greased baking pan and bake in a moderate oven. Serve with liquid sauce.

For the boiled dumpling, make a thick batter of 2 cupfuls of flour, a tablespoonful of butter and 1 of sugar, 2 eggs, 1 cupful of milk or water, 3 tablespoons of baking powder and 1 cupful of pitted cherries. Have ready a kettle of boiling salted water and drop the mixture in by tablespoonfuls, taking care that the water does not stop boiling. Cover closely and boil twelve minutes without lifting the cover. Lift carefully on to a hot dish and serve at once with a sauce made by creaming together 1 tablespoonful of butter and 1 scant cup of sugar. Add gradually 1 beaten egg and ½ cupful mixed cherry and lemon juice, beating constantly.

* * *

Cherry Pudding.—This is easily made, and proves as satisfactory as many a more elaborate dessert. Put pitted and sweetened cherries an inch or so deep in the bottom of a buttered pudding dish and cover with the following mixture: One cupful of sugar beaten to a cream, with 2 tablespoonfuls of butter, 1 egg, 1 cupful of milk, 2 cupfuls of flour and 2 tablespoonfuls of baking powder. Flavor with a bit of nutmeg or lemon. Bake, turn from dish, and serve with warm, sweet sauce.

* * *

Rice Pudding.—Beat three eggs separately; add a teacupful of sugar to the yolks, then stir in a teacupful of boiled rice and one pint of sweet milk. Flavor with vanilla and nutmeg to taste. Stir in the whites, drop in evenly a teacupful of stoned and floured raisins and bake twenty or thirty minutes. If preferred the whites may be used for a meringue.

* * *

Cold rice left from dinner makes a very palatable breakfast dish, mixed with a few eggs, seasoned with salt and pepper and fried in butter. Into a hot frying pan put one or more tablespoonfuls of butter, according to the amount of rice, pour the mixture in, stir thoroughly to mix the butter and let brown a light brown. Serve hot.

A great demonstration for good roads occurred at Hollywood on Saturday.

DOMESTIC ECONOMY.

A novel situation has arisen from the craze for household arts which is sweeping over the country. Since the public schools have undertaken to educate the girls to the point of skilled housewives, the boards of education in many cities are confronted with the problem of furnishing teachers who are competent to instruct in all the varying lines which contribute to elevate the standard of living in homes supported by small incomes. Teachers are asking for leave of absence at least half the day in order that they may take a course of study in the household arts. Pupils are flocking to the schools and are asking for an opportunity to learn the practical side of housekeeping. It means that women are returning to the days when the home, the table, the kitchen were uppermost in the list of duties, and the club, that great developer of the feminine mind, is losing some of its influence in the upbuilding of the character of the girl of today. The demand is increasing daily, and the facilities for teaching domestic science will be increased in proportion to the demand.

* * *

Executive Ability needed.—The old idea that it does not require any particular ability to keep house is being eliminated from the minds of the young girls of today. It is being relegated to the mystic region of forgetfulness together with many an old-time superstition. It requires ability of no mean order to be a first-class housekeeper. It means that one must have great executive ability in order to direct and control the servants and to be able to exercise sufficient diplomacy with the various members of the family to insure smooth and pleasant intercourse from day to day.

It does not necessarily follow that the dove of peace will abide with the household simply because the members are bound together by ties of consanguinity. Different temperaments, varying interests, diversified employments, all have their effect in creating discord, and it often requires much tact to establish and maintain harmony. It also requires in addition a knowledge of food values, sanitation, household decorating and economics. As a matter of fact, housekeeping is a business which requires a constructive ability. A frivolous or giddy woman can never become an expert housekeeper.

* * *

Sanitation.—As the house is the unit of health in the community, all the causes which contribute even indirectly to the public health should be carefully considered by the housekeeper. A most important factor is hygiene, or sanitation. In the laboratories of the world, in the hospitals and other institutions, men are studying the conditions which facilitate the establishment and spread of disease. And side by side with them are women testing their theories in such manner as can be done only in the household, adopting only such conclusions as are found to be sound. These theories when established become a part of the instruction of the public school system. Girls are taught the value of health of the family and the community in which they live. All sanitation may be summed up in the one word "cleanliness."

* * *

Value of Sunlight.—The domestic science of today is disclosing to the ignorant the fact that the deterioration of food is caused by the same germs which may cause sickness. The conditions which are favorable for the development of the one are those which will foster and encourage the other. The woman who a few years ago closed her rooms from the sunlight, intending thereby to keep them clean, is learning the error of her ways and is discarding that time-honored hallucination. Her 15-year-old daughter who is a student in the manual training and domestic arts section of the High School, is telling her that disease germs are fostered and encouraged by the exclusion of light and air. She knows now that sunlight and pure, dry air are the greatest foes of bacteria. She is told and is brought to believe that the same forces which will destroy disease germs will tone up the human system in such a manner that its power to resist disease is greatly increased. So the school girl of today is, in many instances, wiser in household sanitary lore than the mother.

* * *

Cooking and Dietetics.—Sanitation is not the only topic of importance taught in the up-to-date public school. Sewing, constructive work and cooking each have their part in the curriculum and are taken up in their proper order. Pupils are taught how to prepare simple breakfasts, luncheons and dinners. This includes the proper setting of the table, with the arrangement of the decorations and serving, manners and personal appearance; the comparative value of foods; marketing; planning of meals and dietetics—in fact, the school girl of today is becoming expert upon many subjects which are enigmatical problems to the old generation of housekeepers. As a result the young housekeepers are coming to their duties with broad views born of their greater knowledge of the value of scientific training.

* * *

House Architecture.—The proper appreciation of the domestic arts will lead to improvement along other lines. The kitchen will no longer be established in the most unpleasant and unwholesome part of the house. House architecture will be studied from the housekeeper's point of view, and the building of the new home will be discussed by the women members of the house with intelligence and enthusiasm.

* * *

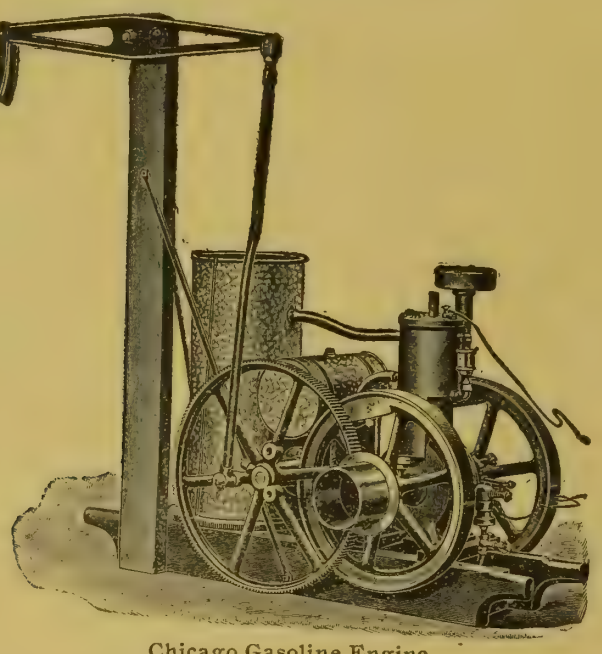
A Scientific Housekeeper.—Not long ago there was a practical illustration of the value of the new over the old method of housekeeping. A fifteen-year-old girl living in Chicago, who had been a pupil in one of the centers of domestic arts, asked her parents' permission to run their house for one month, buy all the supplies and plan and arrange all the meals. The mother foresaw financial and gastronomic ruin but the father was inclined to give the girl a chance to prove the value of her studies. For four weeks the girl was the domestic autocrat of the household, the family eating such meals as she provided. During this time the family lived as well if not better than before. There was no waste, as all the left-overs were utilized in attractive and wholesome ways. The machinery of the home moved along in its accustomed grooves, and the tired mother had a rest which was greatly appreciated. At the end of the month it was found that it had cost the family just $23 less to live during that month than any previous month. The girl is now teaching her mother how to run the house on an economical yet satisfactory basis.—Ettie S. Wilson.

The Gasoline Engine as a Power.—The question of power for the farmer has probably been more unsettled than any other implement or tool required by the farmer, but the use of the gasoline engine has revolutionized the question of power, and today there is no power so suitable to all uses and requirements up to a certain limit as the gasoline engine, for the reason that it is always ready to run, can be started in a moment's time, is economical in fuel used and can always be depended upon.

The use of the horse power has its drawbacks as well as the windmill. The windmill has undoubtedly been of more service to the farmer than any other power, but the windmill, compared to the gasoline engine, has no show With a windmill, you must have wind, and this you cannot depend upon. Often when water and feed are needed the worst, the wind does not supply the required power and the result is that the work must be done by hand.

With the gasoline engine all of these difficulties are overcome, as it can be started in a moment's time and is always ready for service. The expense is but a trifle more than a first-class windmill, and the gasoline engine is supplanting the windmill in many localities.

For the benefit of our readers we have given in this week's issue an illustration of the Chicago engine, which is inexpensive and should be of interest to every one. A large, beautiful illustrated catalogue of this engine can be had by addressing the manufacturers, The Chicago Gasoline Engine Co., 57 North Jefferson st., Chicago, Ill.



Chicago Gasoline Engine.

* * *

The Briggs Pitter.—One of the successful labor-savers now used in drying fruit is the Briggs pitting machine, manufactured by the Briggs-Knight Manufacturing Co., of Los Angeles. It is a machine with rotary knives which split the fruit, and remove the pits with great rapidity. In fact apricots may be cut and placed on tray for nearly half the hand labor cost.

The fruit is emptied on the table of the machine from which automatic feed carries it to the knives, where the pit is removed and thrown to a box, while the cut fruit goes to another and is carried to the drying trays, where the girls spread. The price paid for spreading is half that of cutting and spreading and the girls make more money than at the other work, consequently are better satisfied and better stayers.

The machine cuts the fruit entirely around, and pits it more carefully than it can be done by hand.

One man turns the crank and feeds it, the work being done with wonderful rapidity, six pits being extracted at each revolution of the wheel, whether the fruit be freestone peaches of the largest size, or plums of the smallest. It is capable of handling two tons of peaches per hour; one ton of apricots per hour.

Fruit cut with this machine sells equally as well as though cut by hand. It requires ten to fourteen girls to spread the fruit as cut by the machine. Mr. Briggs recently showed us testimonials from a large number of enthusiastic users of the machine. Enthuiastic because of money saved; also because of fruit saved in the rush of the season, when sufficient labor to handle all the crop can not be had.

The following crop and weather report is submitted by Director McAdie for the week:

Grain made rapid growth during the week and is in fair condition in most places, but the prospect for large crops is reported not as good as earlier in the season. The early sown grain is heading out late, but looking well; the late grain would be greatly benefited by showers. Haying is in progress in many places, and the yield and quality are reported very good. Hops are late, but are now in excellent condition and will probably yield a large crop. Beans, sugar beets and vegetables are doing well. Green feed is plentiful and stock are in good condition. The grain and hay crops in Southern California will be exceedingly light except on irrigated lands. New potatoes and early vegetables are plentiful in the markets.

The first carload of cherries was shipped from Vacaville on the 13th. They are going forward is car load lots rapidly now. Strawberries and cherries ripening rapidly in nearly all sections, and other deciduous fruits are making satisfactory progress. There will probably be a light yield of apricots, peaches and prunes in some of the best districts, but these and other varieties are reported nearly average in some sections. Grapes are remarkably thrifty in most sections and large crops are expected. Citrus trees in Southern California are heavily laden with green fruit, and the oranges are unusually good.

Los Angeles Markets.

Los Angeles, May 19, 1904.

The local markets are showing considerable weakness. Nearly all commodities are being offered very plentiful.

There is still a good demand however, and dealers are quite well satisfied with the present conditions.

Butter.

Butter continues firm at the following prices. All stocks are in good demand and a higher quotation is expected soon.

B. of T. Cream, 2-lb roll		45
Valley creamery, fancy	45	
Coast Creamery		40
Cooking, per lb.		20

Cheese.

A big drop is noted in the prices of all grades, as a result of there being a limited demand.

Cal. and 3 lb. hand	16
Cal. Downey and Anchor	12
Northern	11
Swiss	19
Imported do	26½

Eggs.

Fresh ranch are now coming in sufficient to supply the demand. A lower quotation is noted on both eastern and local.

Fresh ranch	21	22
Store, case count	19	20

Poultry.

Broilers are very plentiful, but fryers are still scarce. Local dealers are expecting better offerings in a few days.

Broilers, up to 1½ lbs		15
Broilers, 1½ to 2 lbs		17
Fryers, 2 to 2½ lbs		20
Young Roosters, 2½ up		22
Hens, No. 1, per lb	13	14
Ducks, per lb	13	14
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

All old stocks save suffered a decline of from 30 to 50 cents during the past week. New Early Rose are coming in in small quantities, and are being consumed as fast as offered. It is thought the old stock will be cleaned up when the new is offered in sufficient quantity to supply the trade.

River, per cwt	1 50
Oregon, do	1 60
Local Sweets, white	3 00
Early Rose, new	02½
Pinkeye	1 50
White	02
Nevada Pearls, do	1 50

Vegetables; Mixed.

All varieies are being marketed freely and are of a good quality. The prices on nearly all stocks have lowered quite materially this week. Green peas are quoted at 1 cent the cost of the picking.

Onion, Silver Skin		02½
Beets, per 100 lbs		1 25
Cabbages, do		75
Green Peas	01	02
Lettuce, per sack		40
Tomatoes, 25 lb. crate	1 00	1 25
Hubbard squash, per ton		20 00
Celery		35
Carrots, per sack		65
String Beans	2½	03
Wax Beans		03
Chiles, green, per lb.		06
Rhubarb		1 25
Asparagus		05

CITRUS FRUITS; FRESH

Fancy oranges, 126s, bx		2 25
Do, 150s	1 50	
Do, 176s,	1 25	
Do, 200s,	1 00	
Standards	50	
Lemons, fancy, per box	1 00	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Four-tier Belleflower		2 00
Four ½ tier, do	1 50	
Pears, Winter Nellis, lb		05
Apricots lb.	08	10
Strawberries	04	05
Loquats		06
Cherries, 10 lb. box		1 50
Bulk cherries	09	10
Gooseberries		08

Fruits; Dried.

Apples, evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	07½	08
Peanuts, California	07½	08

HONEY.

White strain, per lb	07
Light amber, do	06
Comb, water white	15
Do, light amber	13

Hay and Grain.

Hay is quoted $1 lower this week. Grain remains about the same, with the exception of corn, which is quoted 5 cents higher.

Alfalfa	9 00	10 00
Tame Oat		12 00
Barley hay	8 00	12 00
Wheat hay		12 00
Oats	1 25	1 35
Wheat	1 45	1 55
Barley	1 15	1 17½
Corn	1 30	1 35

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 25
Bran	1 25
Feed Corn Meal	1 55
Middlings	1 45
Cracked Corn	1 45
Oil Cake Meal	1 85
Chicken Wheat	1 65
Cocoanut Meal	1 50

San Francisco Markets.

San Francisco, May 19.

Dairy.

General offerings of Butter were liberal Thursday, receipts showing a marked increase, but under a spirited trade the market maintained its firm position and offerings were well cared for at unaltered figures. The principal buying interest was shown in the upper grades, which were well absorbed at full prices, while in instances for some of the most favored marks of Creamery a 1c premium was secured.

BUTTER—Per lb:		
Creamery, extras	19	
Creamery, good to fancy	18	@18½
Dairy, extra	17	@17½
Dairy, choice,	15	@16
Store	14	
CHEESE—Per lb:		
California Creamery, mild new, extra	10	@11
California Creamery, new mild, choice	8	@ 9
Young America	10	@11½
Eastern, New York Cream, Cheddars and flats, new	15	@16

Eggs and Poultry.

Eggs have been offered in liberal supply this week and the prices remain as quoted last week.

EGGS—Per doz:
Ranch, selected large 21
Ranch, good to choice 20
Store ....18 @19
California storage ....Nominal
Eastern ....Nominal

Poultry shows lighter receipts. Prices are not materially changed from former quotations.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $7.50@8.50; Fryers, $6@7; Broilers, large, $3.50@4.50; small, $2@3; Hens, small, $4.50@5; large, $6@6.50; Ducks, per doz., old, $5@5.50; young, $6@6.50; Live Turkeys, per lb., 15@17c; Geese, per pair, $1.50@2; Goslings, $2.50@3.50; Pigeons, per doz., old, $1.25 @1.50; Squabs, $1.50@2.

Fruits and Vegetables.

Old Potatoes are on a weak basis, with free supplies offering, but the selling interests show little inclination of improving business by cutting prices and the general market is tame and featureless in appearance.

Receipts of strawberries have been very plentiful. Oranges are quoted at stronger prices. New prices for limes have been established.

DECIDUOUS FRUITS.—Apples, per box, $1 @$2.50.

Cherries—Per box, 75@$1.25.

Apricots—Per crate, $2@3.50.

BERRIES—Per chest: Strawberries, Longworths, $3@5; large varieties, $2@3.50.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $1.75@2.50; choice, $1.35@1.85; standard, $1@1.50, according to size; Seedlings, $1@1.25; Lemons, $1.25@2.75; Grape Fruit, $1@2; Tangerines, $1@1.25; Limes, $5 @6.

VEGETABLES.—Asparagus, per lb., 3@6c; Tomatoes, per box or crate, southern, $1.50 @$1.75; do, Mexican, $1.75@2.25; do, Florida, $2.75@3; Rhubarb, per box, 25@65c; Green Peppers, per lb., Los Angeles, 6@10c; Mexican, 12½@17½c; Dried Peppers, Stockton, 5@8c; southern, 8@12½c; String Beans, per lb., 5 @7c; Wax Beans, 6@8c; Green Peas, per sack 65c@$1; Garden Peas, per lb., 2@2½c; Egg Plant, per lb., 8@20c; Summer Squash, per box, 65@85c; Cucumbers, hothouse, per doz., 50c@$1.25; Garlic, per lb., nominal; Dried Okra, per lb., 12½c; Marrowfat Squash, jobbing at 1@2c per lb.

POTATOES—Per ctl: River Burbanks, $1.25@$1.40; River Reds, $1@1.10; Oregon Burbanks, $1.35@1.00; New Potatoes, per lb., 1½ @2½c.

ONIONS—Per ctl: Yellow, nominal; new Red, $1.25@1.50; Australian, $5; Green Onions, per box, 35@50c.

Dried Fruits, Nuts, Etc.

Spot stocks of Dried Fruits are attracting but little attention and the general market is devoid of feature, with the prevailing prices largely nominal. Crop prospects are for a short yield of Prunes in the Santa Clara valley and a small production of Apricots. Almonds will also be short.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are per lb, as follows:

Apples—Evaporated, 4½@6c; Sun dried, 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice, 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 5¾@6½c; fancy, 7@7½c; peeled, in boxes, 11@14c.

Pears—Bartlett, fancy, 11½c; choice, 9½@ 10c.

HONEY.

New Comb, per lb., White, 10@12c; Amber, 8@9c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

Hops.

The price has gone up one point. Quotations, 26@28½c per lb., according to quality.

Beans.

The tone of the market for Beans continues firm, but general business is quiet, although of seasonable volume. Pinks still hold the best position, offerings being very light. Seeds are in slow demand and former prices are without change.

BEANS—Prices per ctl: Large White, $2.40 @$2.65; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.20@3.35; Red, $4.25@4.50; Pink, $3.40 @3.60; Bayo, $2.40@2.60; Blackeyes, $2.05@ $2.25; Kidneys, $4.75@5.

Live Stock.

Sheep are quoted at a further fractional decline under heavy offerings, while the market for other kinds of Live Stock maintains a steady position at unchanged prices.

CATTLE—No. 1 Hay fed Native Steers, 9@ 9½c; second quality, 8@8½c; thin Steers, 7@7½c.

CALVES—Light, per lb., 5@5½c, gross weight; heavy, 4¼@4¾c, gross weight.

SHEEP—Per lb.: Unshorn Wethers, No. 1, 4½c gross weight; Shorn, 3½@4c; Ewes, No. 1, unshorn, 4@4¼c, gross weight; shorn, 3¼ @3½c.

WOOL.

Spring clip, per lb.: San Joaquin and Southern, 12 months' 9@11c; do, 7 months, 8@10c; Middle Counties, free, 12@16c; do, defective, 11@14c; Northern, free, 10@17½c; do, defective, 13@15c; Nevada, 12@15c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $11@15; Wheat and Oat, $11@13.50; Oat, $8.50@13; Barley, $9.50@ $11.50; Clover, nominal; Alfalfa, $9@11.50; Stock, nominal.

STRAW—Good to choice, per bale, 60@70c.

FEED CORN MEAL—Choice grades, per ton, $31@31.50.

GROUND BARLEY—Per ton, $23@24.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@ 4.90 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.50@4.30.

WHEAT—No. 1 shipping, per ctl., $1.26¼; Choice, $1.28¾; White Milling, good to choice, $1.31@1.45.

BARLEY—Choice No. 1 Feed, $1.05@1.07½; off grades, $1.02@1.03¾; Brewing, No. 1, $1.08¾@1.15; Chevalier, nominal.

OATS—Good to choice, White, $1.40@1.50; Red, $1.30@1.37½; Black, nominal at $1.25@ $1.30.

CORN—Good to choice, per ctl: California, new, large, Yellow, $1.45@1.55; small do, $1.60 @$1.65; White, $1.45@1.55; Eastern, $1.37½@ $1.45.

CRACKED CORN—Choice quality, per ton, $31.50@32.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

CHICAGO, May 18.—Early influences in the wheat situation were conflicting and there was popular belief that sales would weaken after two days of pronounced strength by a failure of Liverpool cables to show a reflection of yesterday's advance. The opening bids, nevertheless, showed an unexpected demand from the milling centers as well as a renewed buying tendency by foreign interest, and initial sales of July were ⅛ lower to ⅛ higher, at 87⅝@87¾.

Cash quotations were as follows: Flour was easy; No. 2 spring wheat, 92@96; No. 3, 86@ 96; No. 2 red, 1.03@1.06; No. 2 corn, 49@49½; No. 2 yellow, 52½@53; No. 3 white, 42@44½; No. 2 rye, 73; good feeding barley, 35@38; fair to choice malting, 45@56; No. 1 flax seed, 99½; No. 1 northwestern, 1.09; prime timothy seed, 3.00; mess pork, per bbl., 11.25@ 11.30; lard, per 100 lbs., 6.37@6.40; short ribs, sides (loose), 6.25@6.37½; short clear sides (boxed), 6.25@6.50; clover, contract grade, 10.75.

Articles—	Receipts.	Shipments.
Flour, barrels	36,200	13,700
Wheat, bushels	19,000	62,800
Corn, "	64,100	208,500
Oats, "	114,500	190,500
Rye, "	12,000	.....
Barley,	57,900	6,900

On the Produce Exchange today the butter market was firm; creamery, 15@19½; dairy, 12@17; eggs, steady, 14½@15½; cheese, easy, 8½@9½.

Dried Fruits, Nuts, Etc.

NEW YORK, May 18.—The market for evaporated apples remains quiet, with demand rather limited. Supplies are not pressed for sale, however, and holders show confidence. Common, 4@5¼; prime, 5⅝@5¾; choice, 6¼@6½; fancy, 7@7½. Prunes continue quiet, but steady, with prices ranging from 3 to 5¾, according to grade. Apricots are unchanged. Choice, 9½@10; extra choice, 10½@ 12; fancy, 11@13. Peaches are in fair demand, particularly the lower grades, and prices rule generally firm. Choice, 7¼@7½; extra choice, 7¾@8; fancy, 9½@10.

Live Stock.

CHICAGO, May 8.—Cattle—Receipts, 2500; steady; good to prime steers, 5.10@5.65; poor to medium, 4.15@4.90; stockers and feeders, 3.25@6.50; cows, 1.50@4.40; heifers, 2.25@4.70; canners, $1.50@2.50; bulls, $2.00@4.00; calves, $2.50@5.25; Texas-fed steers, 4.00@4.75. Hogs—Receipts today, 15,000; tomorrow, 30,000; steady to 5c higher; mixed and butchers, 4.70 @4.90; good to choice heavy, 4.80@4.90; rough heavy, 4.65@4.80; light, 4.65@4.80; bulk of sales, 4.75@4.80. Sheep—Receipts, 8000; sheep and lambs steady; good to choice wethers, $4.75@5.55; fair to choice mixed, 3.75@4.60; western sheep, 4.50@5.50; native lambs, clipped, 4.50@6.20; western lambs, clipped, 4.75@ 6.20; western lambs, wooled, 6.25@6.90.

CITRUS MARKETS

The citrus market is growing better. All the week prices have been looking up. Sales for better grades of oranges have been strong, with a healthy demand from the best auction points and a still more healthy call from interior points. Thursday's sales were the best of the season. A much healthier tone prevails all points in the east. The coming of settled weather is having its effect on the market as well as improved character of the fruit offered. Sicily lemons have done better and advanced 10@15c at auction. Store trade is good in both oranges and lemons. Good grape fruit is scarce and wanted, selling as high as $10.

AUCTIONS.

SAN FRANCISCO, Cal., May 13th, 1904.
NAVELS.

Sunflower, C. C. U., Redlands, $1.80; Monogram, $1.50.

Foot Hills, S. A. Ex., No. Pomona, $1.70, Indian Hill, $2.10; Volunteer, $1.60; Morning Glory, $1.55

NEW YORK CITY, May 13th, 1904.
NAVELS.

Squirrel, A. H. Ex., Arlington, $1.95.

La Mesa, Riv., Riverside, $2.55; Blue Globe, $2.85; Pepper, $2.20, $2.35; Red Globe, $2.40; La Mesa, $2.55.

Belt, S. B., E. Highland, $2.20; Gold Buckle, $2.50; Silver Buckle, $2.45; Lochinvar, $2.30.

Iris, D. M. Ex., Duarte, $2.70.

Jewel, S. A. Ex., Pomona, $2.05.

Lion Head, C. C. U., Redlands, $2.55; Tiger Head, $2.15, $2.00, $2.10; Clover, $2.10; Thoroughbred, $2.10; Redland Beauty, $2.35; Chief, $2.25.

Sterling, C. C. U., Upland, $2.55; Lighthouse, $2.20; Seal of Cal., $1.95.

Select, S. A. Ex., San Dimas, $1.80.

Owl, O. K. Ex., Ontario, $2.30.

Echo, S. T., Pasadena, $2.30, $2.25.

PHILADELPHIA, Pa., May 13th, 1904.
NAVELS.

Pointer, A. C. G. Ex., Glendora, $2.25.

Pointer, A. C. G. Ex., Azusa, $1.90; Pointer, T. I., $2.30.

Iris, D. M. Ex., Duarte, $2.50; Violet, $2.30; Primrose, $2.05.

Ben Hur, S. B. Ex., Redlands, $2.25; Holiday, $2.15.

Echo, S. T. Ex., Pasadena, $2.35; Arroyo, $2.35.

Pointer (Bloods), A. C. G., Glendora, $2.35.

Perfection, C. C. U., Alesandro, $2.35; Golden Rod, $2.20.

Lion Head, C. C. U., Redlands, $2.60; Tiger Head, $2.25; Clover, $2.15.

Jewel, S. A. Ex., Pomona, $2.05; Parrot, $2.25, $2.20; Carlo, $1.85.

Golden Rule, Riv., Riverside, $2.15.

Violet, D. M. Ex., W. Duarte, $2.05.

Mission B. (Bud), C. C. U., Chapman, $2.10.

BOSTON, Mass., May 13th, 1904.
NAVELS.

Squirrel, A. H. Ex., Arlington, $2.25.

Jewel, S. A. Ex., Pomona, $2.20.

Select, S. A. Ex., San Dimas, $1.85.

La Mesa, Riv., Riverside, $2.60; Golden Rule, $2.25.

Chief, C. C. U., Redlands, $2.45; Herald, $2.30; Clover, $2.10.

Artillery, C. C. U., Camalos, $2.05; Red Cross, $1.90.

NEW YORK CITY, May 16th, 1904.
NAVELS.

Blue Mtn., Riv., Riverside, $2.60; Red Mtn., $2.65, $2.45; Blue Globe, $3.05, $3.15; La Mesa, $2.80; Golden Rule, $2.65, $2.45; Pepper, $2.60.

Our Pride, Riv., Highgrove, $2.85; Eagle, $2.70.

Fancy, Riv., C. B. Station, $2.55; Navajo, $2.20.

Stag, A. C. G. Ex., Glendora, $3.10; Pointer, $2.35; Hunter, $1.95.

Pointer, A. C. G. Ex., Azusa, $2.45; Red Shield, $2.00.

Jewel, S. A. Ex., Pomona, $2.20.

Havana Seed, V. C. Ex., Santa Pa., $1.50; Havana Seed (selected), $1.55.

Butterfly, Cov. Ex., Covina, $2.45; Holly, $2.15.

Three Fates, A. L. King, $2.60, $2.70.

Le France (Imp.), J. S. Kuns, $2.30.

Gypsy Queen, C. C. U., Riverside, $2.85; Carnation, $2.70.

Lion Head, C. C. U., Redlands, $2.85; Tiger Head, $2.20, $2.40.

Highland, C. C. U., W. Highland, $2.75; Geranium, $2.60; Good Luck, $2.35.

Seal of Cal., C. C. U., Ontario, $2.45; Lighthouse, $2.15.

Anemone, C. C. U., No. Pomona, $2.75.

Squirrel, A. H., Prenda, $2.45, $2.25.

Red "C," Cov. Ex., Covina, $2.35; White "C," $2.05.

Echo, S. T. Ex., Pasadena, $2.60, $2.55; Arroyo, $2.55.

Quail, O. K. Ex., Upland, $2.65; Coyote, $2.45; Owl, $2.55.

Old Mission, Chapmans', $2.65; Golden Eagle, $2.70.

SWEETS.

Old Mission, Chapmans', $2.85.

Squirrel, A. H., Prenda, $2.55.

GRAPE FRUIT.

Carnation (Seed), C. C. U., Riverside $2.20; Gypsy Queen, $1.65.

Three Fates (½), A. L. King, $1.20.

Red Globe (Malta), Riv., Riverside, $2.35.

Squirrel, A. H., Prenda, $2.55, $2.50.

Liberty Bell (Ruby), C. C. U., No. Pomona, $2.55.

Highland (Bud. seeds), C. C. U., W. Highland, $2.85.

Fancy (Tangs.), C. C. U., Redlands, $2.85.

BOSTON, Mass., May 16th, 1904.
NAVELS.

Squirrel, A. H. Ex., Prenda, $2.40; Squirrel (½), .95, $1.30; Squirrel, $1.90.

Jewel, S. A. Ex., Pomona, $2.20.

Volunteer, S. A. Ex., No. Pomona, $2.55; Selects, $1.80.

Blue Globe, Riv., Riverside, $2.60; Golden Rule, $2.20.

Pointer, A. C. G. Ex., Glendora, $2.35.

Marigold, Riverside Ft. Co., $2.90.

Young America, Pinkham & McKeavitt, $2.50; Banner, $2.35.

Rialto, C. C. U., Rialto, $2.20; Gondolier, $1.80, $1.90; Cream, $2.75, $2.40; Minnehaha, $2.30, $1.90.

Sunflower, C. C. U., Redlands, $2.40; Herald, $2.45.

Titus R. (budded), C. C. U., San Marino, $1.95.

Stork, S. A. Ex., Claremont, $2.00.

Owl, O. K., W. Cucamonga, $2.35; Bagwell (Sweets), $2.35, $2.25; Clemmons (Seedlings), $2.15.

NEW YORK CITY, May 17th, 1904.
NAVELS.

La Mesa, Riv., Riverside, $2.80; Golden Rule, $2.45; Blue Globe, $3.20; Red Globe, $2.75; Pepper, $2.45; Fancy (Seeds), $2.40.

Uncle Sam, Riv., Pachappa, $2.60; Fiesta, $2.35.

Our Pride, Riv., Highgrove, $2.80; Eagle, $2.60.

Fancy, Riv., C. B. Station, $2.60.

Pointer, A. C. G. Ex., Azusa, $2.05.

Holly, Cov. Ex., Covina, $2.40.

Old Mission, Chapmans, $3.70, $2.65.

Red Shield (Budded), A. C. G. Ex., Azusa, $2.50.

La France (Budded), J. S. Kuns, $2.15.

BLOODS.

Violet, D. M. Ex., Duarte, $2.50.

Squirrel, A. H. Ex., Prenda, $2.60.

Tiger, S. B. Ex., Colton, $2.65.

Parrot, S. A. Ex., Pomona, $2.60.

Iris D. M. Ex., W. Duarte, $2.90; Violet, $2.65.

Monogram, C. C. U., Redlands, $2.35.

LEMONS.

Corwin's, 300s, $3.30; 360s, $2.60; 300s, $2.20, 360s, $1.75.

BOSTON, Mass., May 17th, 1904.
NAVELS.

Carrier, S. B. Ex., Highland, $2.45.

La Mesa, Riv., Riverside, $2.90; Golden Rule, $2.45, $2.35; Red Globe, $2.20.

Pointer, A. C. G. Ex., Lateen, $1.95.

Foothills, S. A. Ex., No. Pomona, $2.60.

Quail, O. K. Ex., Upland, $3.00.

Rose, C. C. U., Redlands, $2.70; Monogram, $2.35; Clover, $2.40; Herald, $2.25; Sunflower, $2.35.

Highland, C. C. U., Highland, $2.85.

Squirrel, A. H. Ex., Arlington, $2.25.

BLOODS.

Royal (Ruby), Q. C. Ex., Corona, $2.20; Queen Bee (½), $1.30.

Monogram, C. C. U., Redlands, $2.05.

Squirrel (½), A. H. Ex., Arlington, $1.10.

Total to date this season, 21,170 cars, of which 1396 cars are lemons.

Total to same date last season, 16,516 cars, of which 1523 were lemons.

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles.

PROBABLY A BRUISE.

Editor California Cultivator: We have a cow that gives four gallons of milk a day. She is strong, healthy and in splendid condition. About a month after calf was born a part of the udder and one teat became swollen and inflamed in the evening, and the next morning swelling was gone; but from that teat comes something like curded milk, then it will go away for a couple of days and come back again. The calf was born January 21, 1904.—J. W. S.

This comes from bruise, probably in lying down. Give dessert spoonful of nitrate potash in feed once a day for a week.

* * *

MANGE.

Editor Cultivator: One of my horses has mange. What can I do to relieve him?—John M. Jackson, Covina.

Scrub the parts thoroughly with soap and water and apply the following: Alcohol, 1 quart; balsam of Peru, 4 ounces. Shake and rub well in; repeat in 2 days.

* * *

INFLAMED EYES.

Editor Cultivator: I have a horse whose eyes run water at times and thick matter will come from them occasionally. The lids look inflamed, as if there is fever in them. What can I do to cure the animal.—H. S. J., Glendale.

Use the following lotion: Sulphate zinc, 10 grs.; cocaine, 4 grs.; distilled water, 2 oz. Inject a little into eyes three times a day with dropper.

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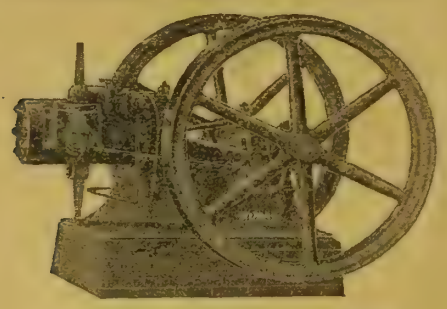

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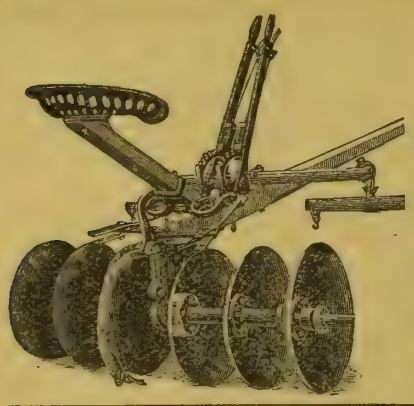

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California Cultivator

LOS ANGELES SAN FRANCISCO

MAY 27, 1904

IN THIS ISSUE: Pruning the Orange; Manuring Grain Land; Even Culture and Growth; Winter Irrigation Beneficial; Bamboos; Some More Little Things.

Bambusa Arundinacea

(See Page 511)

Bambusa Disticha

(See Page 511)

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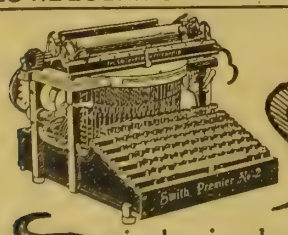

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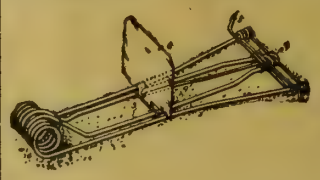

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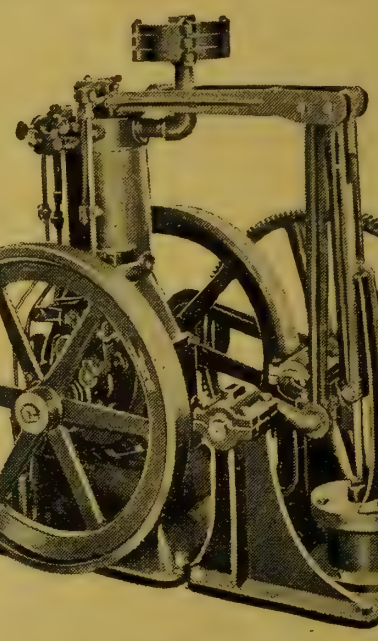

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A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 22 LOS ANGELES, CAL., FRIDAY, MAY 27, 1904 Subscription $1 a Year

Pruning the Orange . . .

Opponents of the System Say it is Butchery Rather than Pruning, but Valentine Peyton Says it Suits Him, and He Shows Figures to Support His Faith.

While at Highlands recently it was my pleasure to visit the orchard of Valentine Peyton, just above the little town which ships so many fine oranges much earlier than many of the orange sections of California. Some of the best cared for groves in the world are at Highlands and it is indeed a pleasure to look through them, but not a particular pleasure to walk through them, for Highlands people are deep cultivators.

But regarding that orange pruning: One man referred to it as "that grove at Highlands, where the owner ought to be." And by "Highlands" he then meant that State institution which cares for our various orange growers who are unable to stand the strain of solving the intricate question of growing and marketing oranges and gone crazy in trying it. But Mr. Peyton doesn't look worried, neither does he manifest any of the traits that are essential to entrance to the State institution at Highlands. He simply smiles and says that a trial has convinced him that his method is an aid to producing good sized, smooth-skinned oranges in greater quantity, and that means more money and more money aids in securing that satisfied feeling.

So, having heard of this grove, both favorable and the reverse, I went to see it, and I must confess the first look jarred me. That is, there was a feeling something like you have when the elevator starts down quick. Big, fine navel trees had been cut off so that a half or possibly two-thirds of the tree was gone and all there was left was a sort of a pancake edition of a tree. The cuts on this page give something of an idea, but the appearance of severe cutting is not so noticeable as is the case in the orchard.

* * *

Mr. Peyton has had an idea for years that the usual method of handling orange trees was at fault, but not until January of last year was the fact given a thorough trial. Then, ten acres of his ranch were given a severe pruning. This consisted of cutting out the entire top, about one half of the tree. The method was to get in to the center of the tree and cut out the large limbs, some of them four and even six inches in diameter. This opened up the center of the tree something similar to the appearance of a lemon tree when pruned by the Baronio method.

A few years since the fight waxed strong between the high and the low pruner. That is, as to whether the young tree should be headed high and its entire head to be above the ground, with opportunity to cultivate close to the trunk, or whether the lower limbs should rest on the ground with as much of fruit within reach of the picker, standing on the ground, as possible. The low pruner won out and scarcely a "high-headed" orchard can now be found in California.

Now, Mr. Peyton goes a step, or several steps, farther and forces the whole tree low down and a vase or cup shape, so that every orange is in reach of picker standing on the ground.

The cutting of these large limbs opens up the tree so that the sun may strike the trunk or main branches in a way which might induce sunburn. But Mr. Peyton says that if done early —January, February or early March— young growth will cover all bare wood before the heat of summer, so there is no danger.

This young growth comes in great quantity and necessitates careful thumb pruning. Suckers, or heavy growing water sprouts are subdued entirely. Fruit spurs are pinched, if necessary, at the tips and kept in check so that within a few weeks the inner part of the tree is a mass of new growth, requiring constant attention. In going through the orchard this appeared to me as a serious objection to the system, but Mr. F. Moreland, foreman of the ranch, informed me that the entire seventy acres can be cared for—that is as to thumb pruning, suckering, etc.—by one man.

No shortening of the lateral growth is done unless in case of the tree being greatly unbalanced by the pruning so that one side projects far more than another.

Fifteen-Year Old Trees as They Appear When Pruned.

The Same Tree Before and After Pruning.

As noted above the first trial made by Mr. Peyton was on ten acres of his ranch. This was pruned in January, 1903, with the result that the section produced over 800 more boxes of fruit than it had ever produced before. This was so encouraging that the same trees were given a more severe pruning this year than last. As an indication of the extent of this pruning Mr. Moreland told me that he secured this year twenty-one ricks of wood from the large limbs of this ten acres, which was so severely pruned last year. Besides that the pruning of the remainder of the seventy acres was just as severe.

The trees look thrifty and strong. The fruit is fine and firm as any orange need be, though, as a matter of fact, the section about the orchard is very early and some of the fruit which has remained on the tree till this date are softened or badly puffed. The trees will require less water and less fertilizer and if the result of the first year of the section which was first pruned is any criterion, the amount of fruit will be almost as great, the picking more economical, spraying, if any is needed, will be vastly more economical and effective.

On the other hand the severe cutting of the tree may well cause the orchardist to hesitate and let some one else experiment. The injury from sunburn to the trunk and limbs of Mr. Peyton's trees is not apparent, but if very hot weather came before the growth starts it might be a serious question. The loss

(Continued on Page 526)

BY J. W. MILLS, ONTARIO, CAL.

MANURING GRAIN LAND.

Editor Cultivator:—I wish to enrich my soil for raising the different kinds of grain. Some have advised me to put manure on the land and others say by no means enrich it with manure. Now Mr. Editor, will you please advise me concerning this and state your reason why, yes or no.

Some have suggested hauling leaves and spreading them at random on the ground and plowing them under. How about this? Is it a good idea or not? Please give me an article through the Cultivator on how to quickly and cheaply enrich the soil.—A. R. Gibson, Ukiah.

We do not know of any better fertilizer for grain than stable manure provided you can get it cheap enough. We would not pay more than twenty-five cents per ton and haul it. If you have it on the ranch, by all means use it. If you can get it at the livery stables in town and can haul it when you have nothing else to do or can conveniently make a return load while hauling grain, it will pay you. Ten tons per acre ought to be about the right amount to put on the soil, more would not do any harm provided you did not get much beyond twenty tons per acre.

Perhaps the best and cheapest way to fertilize the soil is to grow a green crop and plow it under. Wheat requires a lot of phosphoric acid and this also induces a good growth of the green crops that we suggest. You will of course lose a season on your grain crop, but you lose that any way if you summer-fallow.

There are a number of plants that will serve the purpose. It is of course necessary to use some plant that belongs to the pea family as they gather the nitrogen from the atmosphere. If your soil retains enough moisture to grow a crop of beans, you would undoubtedly make a fair profit from the beans and at the same time enrich the soil. It is not too late to put in a trial plot now, provided you have kept the soil well cultivated so as to preserve the moisture. If your soil will not retain moisture long enough or in quantities enough, to grow a crop of beans, you will have to raise some winter crop in order to fertilize by this method. Try some of the vetches, Vicia villosa may be a good one for you. The Canadian field pea should do well with you. The pea crop would take some of the moisture that might be preserved by straight summer-fallowing, but there would be considerable gain even on this point and there would certainly be a large gain in the fertility. We would suggest sowing about 600 pounds of Thomas phosphate per acre with the peas. These should be sown so that the plants will come up with the fall rains and when they are forming pods, they should be plowed under. This may be early enough for a crop of grain and would surely be early enough for a crop of Egyptian corn, which would leave the land in excellent shape for grain the following fall.

Excellent results have been obtained in some of the dry states east of the Mississippi river with growing cow peas on the summer-fallow and cutting them for hay. The pea hay thus gathered was worth as much as the average crop of wheat and the following crop of wheat was almost doubled in quantity. There is no better hog feed than a crop of cowpeas just as the pods are filling. These trials have not been made in this state that we know of, but there is no reason why the cowpea will not do well in such situations as our coast regions usually present.

In applying the phosphoric acid, it might be well to try a small lot with super-phosphate. This form usually gives the best results in an arid climate under ordinary conditions, but it is the most expensive form of phosphoric acid.

There is one difficulty that sometimes presents itself when a crop of legumes is grown on the ground for the first time. The nodules do not form on the roots and as a consequence, the growth is often smaller than it should be and even if it is not, there is nothing gained more than a crop of barley or wheat plowed under, because it is the presence of the knots on the roots that allows the plant to absorb the nitrogen from the air. The germs that form the knots generally come during the first season, but they are sometimes too late to do any good that season but they are there ready for business the following season or even still later. If you plant cowpeas, get some dirt from a garden where beans have grown the previous year and mix it with the seed before you sow it. Dampen the seed first so the dirt will stick to it. If you plant field peas, get some dirt from a garden where garden peas have grown the previous year and do as directed above.

* * *

Green manuring is now acknowledged to be the cheapest source of fertilizer where nitrogen is desired. It has also been shown that a little commercial fertilizer sown with the green crop kills two birds with one stone. It stimulates the growth of the crop which increases its capacity to gather nitrogen from the air and when the crop is plowed under it goes into the following crop. When such crops as peas and cowpeas are raised for fodder or hay, their roots and stubble give to the soil a large amount of fertilizer material. One of the greatest gains from green crops is the addition of humus to the soil. It has been determined that at least half of the available materials that are in the soil and that which the plants must have, is contained in the humus. Now if the amount of humus is small the amount of available materials will be small. If you add humus you add fertility. The leaves that you refer to will add humus but it is not practicable to use them on a large area. Anything that is plowed under helps if it is nothing but straw, but it is only added as deep as the plow goes. Green manuring crops sends the fertility down as far as the roots go which is several feet and the roots of grain do not stop far under three feet.

* * *

CUT WORMS AND TOMATO VINES.

Editor Cultivator:—Will you please give me a recipe for destroying cut worms working at the roots of my tomato plants? The plants are cut off short just above the ground and I do not find any worm near or under the soil, but from appearances of the vines should think the cut worm was the cause. —Mrs. M. E. A., San Diego.

A handful of air slaked lime placed around the base of each plant will prevent the worms from cutting them above ground. If they work below, a small dose of bisulphide of carbon, about a tablesponful, placed on each side in a hole about six inches from the vine will kill the worms. The holes may not be deeper than a couple of inches and the liquid covered with dirt.

ENEMIES OF THE PRODUCER.

One of the enemies of the cotton planter, as he is of the wheat grower, is the man who corners the market. This can only be done with success after the crop has left the hands of the producer, so that he gets no benefit from the inflated prices, but suffers a permanent injury from the destruction of his market. The production of both cotton and wheat in the United States is greater than the local market can consume. Both the planter and the farmer are dependent upon foreign demand to maintain living prices, and the tendency of unnaturally high prices is to cause our customers in other lands to look elsewhere for their supplies. Whenever the wheat market in the United States is cornered England begins to look to Russia, to India and to Argentina for her bread, and every such occasion causes each of those countries to increase its acreage. There has been much talk recently about the cultivation of cotton in other countries, so that the factories of the world shall not be dependent upon the Southern States. But, while there is abundant land in many countries where cotton will grow, it is always difficult and slow to introduce a new industry.

TOMATO CUTWORMS.

The entomologist of the Missouri experiment station writes to an enquirer: "If you will place boards or shingles about the field and every morning go through and turn these boards over you will find that the cutworms collect under them instead of burrowing into the ground, and you can step on them and kill them. By following this up for a few days you rid the patch of the cutworms. If the patch be a large one, so that this method is impracticable, the cut worms can be poisoned by mixing a quantity of any arsenical poison of any kind with bran and then making a dough out of the bran by means of sweetened water. Place handfuls of this poisoned bran about the patch and the cutworms will eat it and be killed. It is necessary, however, to see that no chickens or other live stock enter the field, as they will also eat this poisoned bran and be killed."

CALIFORNIA DECIDUOUS SEASON.

The California deciduous fruit season opened April 30th with the shipment of a box of Sacramento Valley cherries on that date. The first box, which was grown near Vacavile, Solano county, was closely followed by a box of cherries grown near Sacramento and others grown in the Winters district in Yolo county and in the Newcastle district of Placer county. Following these, shipments were made from various fruit districts of the Sacramento Valley .

Notwithstanding the fact ripe California cherries are usually shipped earlier in the season, sometimes as early as March, the initial shipments brough very fancy prices. The first box was sold in Chicago for $25.00, $2.12 a pound. The second sale was made in New York and the figure was $21.00. The third sale, made in the city of Philadelphia, at auction, was a record breaker, eight pounds of cherries bringing the remarkable price of $70.00.

These shipments marked the beginning of California's fruit season. Carload shipments from Sacramento Valley districts began May 13th, when a carload of cherries was shipped from Vacaville.

The fruit crop of California will probably be slightly below average in quantity this year. The Sacramento Valley fruit districts, which provide the bulk of California's deciduous fruits, report heavy crops of pears, but slight shortage in most other fruits. Apricots are already ripening and will soon be in the general market.

The bean growers in the valley, says the Lompoc Record, and quite an area is given over to this cereal, say the land is in fine condition and they expect an average yield, and being what is termed a contract crop grown for seedmen, is expected to pay a fair return. This method, the farmers claim, gives assurance of speedy returns at a fixed price, and the average yield, about the same as the field beans once so common in California.

Many growers hold to the opinion that apples keep better if they are picked before they are fully ripe. Tests in cold storage show this to be erroneous. Fruit picked before it is ripe, before it is fully grown, is frequently damaged by scald, and it is likely to shrivel somewhat. While the fruit should be ripe, it should not be "dead ripe," for then even cold storage will not avert decay.

The Arrowhead Reservoir Company has let a contract to Bright & Drew of Los Angeles for the construction of the concrete core wall of their big dam, which they are to build across Little Bear Valley, backing up the water a distance of about four miles and furnishing sufficient water for the irrigation of the entire acreage of San Bernardino Valley.

The Lompoc Record says that Geo. Parker has already put down four artesian wells and is intending to complete a group of eight. Those perfected give off a flow of about 20,000 gallons each daily without the pump. If this venture proves the success now promised, it will not be long until much of the lower valley will be under irrigation and producing alfalfa.

The fruit crop in Tulare county is one of the largest in the State and to take care of the crop a new and big cannery is to be erected at once in Visalia.

The walnut crop in portions of California gives evidence of being heavier and of better quality this year than for several years past.

The Pajaro valley will be short on apples this fall.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

ON CO-OPERATIVE LINES.

The interest taken by the dried fruit men in any measure looking to union among them in the handling of their products was evinced by the very large representation present at the first meeting called by the committee of fifteen appointed at the late Fruit Growers' Convention for the purpose of uniting this class of producers in our State. San Jose seems to have been selected as the point from which this organization is to take the initiative, and in this selection the committee have shown their wisdom. San Jose is the center of the principal dried fruit section of the State, the growers there are more strongly impressed with the necessity of doing something than they are elsewhere; they have had experience along the line of co-operative action and some of it bitter experience at that, but they know better than any one else the mistakes that have been made, the shoals upon which they have been wrecked, and are pretty likely to avoid them in future action. Their experience outside of association has convinced them, too, that the disorganized producer is a failure. Today the man who relies wholly upon himself and thinks that he can act independently of his fellows may as well get off the earth. So the growers there, as elsewhere, are ripe for organization, so soon as any honest and feasible plan can be offered to them. The general opinion as to the kind of organization now is that there shall be a central organization with local associations in all the dried fruit sections. Each of the latter will be an independent organization but under the direction of the central body so far as the more important matters are concerned. This is somewhat after the system of the labor organizations, and these unions have perfected the system until the whole body moves with the smoothness of the perfect machine. Why, if the laboring men, taking in as they do all classes—the bright and intellectual and the most densely stupid, foreigners ignorant of our language and nearly everything else, can be held together in a compact mass for their own benefit. cannot the fruit growers, whose interests are as vital as those of the day laborers, whose intelligence as a class is of the first rank. be made to understand the necessity of combination? We believe they will and avoiding the rocks upon which former associations have been wrecked, achieve success in their last effort.

* * *

WINTER IRRIGATION BENEFICIAL.

It is with a species of pride that very many fruit growers in northern counties assert the fact that irrigation is not needed in their section and that fruit will grow without the artificial application of water. This is true of most sections, but at the same time there is a steadily growing sentiment in favor of irrigation even in those sections where it is not supposed to be needed. There are vast tracts all through the Sacramento and the San Joaquin valleys in which irrigation is an absolute necessity if summer crops are to be grown at all, and even in the locations where fruit will do generally without irrigation it is being generally discovered that it will do better with. In the past we have had a series of years with a deficient rainfall, with the effect that the normal water level of the soil has been lowered year by year, until it is in many parts got below the level of the root system of the trees and in these cases there have been heavy losses of both trees and fruit; for such trees as did not die and produced any fruit, produced crops inferior both in quantity and quality. In some cases where the owners were fortunate to have a water supply, they flooded the ground, filled it up with water from the lower water table, and as a result not only saved the trees but generally had fair crops of marketable fruit. In filling the soil with water during the winter months we are but following nature's plan, and assisting her work when for any cause she fails to do it herself. Winter irrigation, where there is proper drainage, is to be recommended. There is no danger, in such cases, of getting too much water into the soil. If it is filled to its capacity and the later rains are heavy the surplus will drain off, but if there is a shortage in the precipitation and no water is applied, then there is danger of the roots standing in a dry stratum, and while the surface may be moist for a short distance down, the soil does not carry enough moisture to supply the demands of the tree and it either dies or loses its crop and gets a set back from which it never recovers. Where water is available the soil should be filled, given all it will absorb, during the winter months, and the man who can and does do this need give himself no uneasiness in regard to the rainfall later on.

* * *

The canker worm is reported as having appeared in great numbers in the Pajaro Valley apple sections again this spring. One of the standard remedies against this pest is the Paris green spray, and as most of the orchardists in that region apply this very faithfully for the codling moth it is probable that the pest will soon be reduced below the point where it can do much damage. We understand that the growers of the Pajaro district have made arrangements with Professors Woodworth and Clark to continue this season the operations so well begun against the codling moth last year, and it is probable that the canker worm will get its dose too, while the attack is being made on the more serious pest.

* * *

The first box of California cherries shipped to the east this spring sold at auction at the rate of $7.00 a pound; yet there are those who state that fruit growing in this State does not pay.

Apple trees blossomed slowly in the Pajaro valley this year and the setting process was backward in most orchards. As a result it is probable that Newton Pippins will make a much lighter yield than last year.

"ITS PENNY WISE"

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe ave., Los Angeles.

The Local Marketing Plan.

Mr. E. J. Oatman of Riverside, advocates an auction sale of California oranges by the carload. There are, he says, two principal factors in the idea, the grower and the buyer. "The buyer will be easier to bring into line." The grower has been so often misled and disappointed that he has become skeptical as to any thought of his betterment.

The auction should not be located according to Mr. Oatman, at Los Angeles or Colton, as most others have proposed, but at Riverside.

The advantages to the grower are depicted as follows, on which we comment:

"Sale of oranges at home." Sale at Riverside would be, for Mr. Oatman, practically sale at home, but as for us at Covina scarcely so; and that sale that brings me most money is the sale at home for me, whether it be at Riverside, New Orleans or Boston.

"No overstocked markets." To be avoided by leaving somebody's fruit unsold.

"Quicker money returns." Secured of course by receipt of a less amount.

"Supply and demand kept close together." Erroneous and absurd. "Deand," in such writings, means the requirements of consumers, not the speculative wants of middlemen. Even if such wants were "demand" how much "closer together" are supply and demand at Riverside than when the Exchange sends the supply to New York and elsewhere to meet the consumers' demand?

"If one hundred cars offered at sale leave fifty without demand"—meaning unsold—"picking and packing can be regulated to conform." How can they? Who is to regulate them? Which of the hundred and fifty or more packing houses shall suspend? Will every grower surrender entire control of his crop to the manager of the auction company to say when and in what quantity he shall pick his fruit? Will the growers whose fifty were sold refrain from offering any more of their fruit until the fifty cars are disposed of? On the contrary they will with reason expect their fruit offered tomorrow to meet the same preference of buyers which caused it to be sold today when the others were left over. The owners of the unsold fifty carloads can regulate their picking "to conform," etc., and when they get tired of waiting for sales they can lower the price to suit the idea of their friends the buyers, who will then be found anxious to pay —not the most possible for fruit, as now, when there is none for them but the lowest possible price.

"Should over-production ever follow, surplus will be left at home, saving $560 for each car in freight, icing and packing charges."

Surely that ought to satisfy everybody. Some fruit would be left at home all right, and a good deal of it, but the leaving of it at home would bring better prices for the rest, to somebody, either the grower or the middleman buyer. The buyer being the one real friend of the grower would surely give him all the benefit.

So that we many suppose, narrowing the case to the grower on a side, that it is Mr. Oatman's fruit that is sold and mine which represents the unsold surplus. He might receive a dollar a box or $362 net per carload, while I should "save" in freight, icing and packing charges $560 per car. As a "penny saved is a penny earned," it is plain that the auction system will favor me more than him, nearly $200 per car. So let's shout for home auction.

Let every grower who wants to get a little better deal than his fellow and suspects that his fellow is getting the better of him; everyone who has less confidence in his neighbor who is in the same business with him, than in the fellow 2500 miles away, who wants to speculate on both for his own profit; and everybody who wants to try a new modification of the same old game, join the Home Auction Co.

The buyers generally approve of it, according to Mr. Oatman as one would expect them to do. They will know where to buy fruit then without scouring the country for crops; they will have the growers right where they want them.

They will pay good prices at first for holiday fruit, but buy very little "till the fruit is ripe and sweet;" and then at a lower rate "only the very finest;" "so much unsold fruit went too early," and "until the Florida fruit is out of the way, you know."

As the season wears on and the grade of fruit falls off, the price will go down lower and lower.

Growers will begin to prefer putting in their pocket $200, or even $100 a carload to saving $650 per car by leaving it unsold, and the price will be again as it was before the Exchange was formed, just what the buyers choose to pay.

But the Exchange, if not the Agency, will be in the business still, with its own method. When the buyers at the home auction get the price low enough at Riverside they can worry the Exchange prices down on the other side. But as the Exchange fruit has sold, and will still sell as high as other fruit of like grade, we Exchange growers, receiving as much for our fruit as the buyer receives and more than they pay, ought to be able to stand the tussle if the other growers can.

Mr. Oatman speaks of growers having been misled by advocates of the Exchange method of selling. That method was in successful operation when I first became interested in orange selling. It was explained to me before I owned an orange tree. It has been exactly what it was represented. The proof that it is not a misleading or disappointing proposition is seen in the attitude of its veteran members under the present unusual conditions. They are unmoved amid all the racket, knowing in what they have believed and seeking no new way. —J. S. Jennison in Covina Argus.

PROFITABLE CHERRY CROP.

Single trees of the Royal Ann variety of cherries in California have been known to yield $100 worth of fruit in one season. Profits of $500 to the acre are not rare, while an orchard near Willows containing thirteen and one-half acres produced $7,500 worth of fruit the last season, and this was by no means its most profitable year.

At Yucapie investigation shows that the recent cold snap killed fully 50 per cent of the coming cherry and apple crop. At Oakglen and Huston Flat the fruit was slightly damaged. The Northern Spy, Rome Beauties and part of the Wine Sap apples escaped, as they had not blossomed.

Conducted by PROF. A. J. COOK, Claremont, Cal

EVEN CULTURE AND GROWTH.

Mr. Paul, in his paper on the Citrus Markets, read at the Cucamonga Institute, spoke of the necessity of uniform cultural treatment of our citrus orchards, that we might avoid puffy and split fruit. I do not believe that the speaker placed any too much emphasis on the necessity of avoiding spurts of growth. We are quite sure that with animals and plants alike, a continuous steady growth makes the best results. We have come to feel that if a boy or girl grows very fast, that lack of vigor and often serious ill health is like to be the result. If our cattle grow too rapidly, or put on a great surplusage of fat, then infertility is apt to follow. If the general vigor is pushed to excess, then the reproductive system is liable to utterly fail of its functions. We would not like a nurseryman that we have engaged to bud our trees, to select buds from suckers, or any part of the tree that had made an inordinate growth. We should wish bud or graft from the part of the selected tree that had made a good average growth. We know that if we push our plants of field or garden, that they are apt to take on grotesque growths. We say that they sport. If we wish to keep our plants or trees normal and even in growth, form and quality, we must be even and regular in our care, and must not push them beyond the average of their functional activity. I believe that in our cultivation, irrigation and fertilization, it should be our aim to preserve a uniform condition of vigor and growth. If we do more than this, if we work for spasms we will not get the results that will be the most satisfactory and pleasing I have long taught, as our readers know, that it was reasonable to expect puffy oranges and cracked fruit if we had uneven or spasmodic growth. Of course we cannot control the weather, and so cannot be sure that even with the best of management that we will surely keep the trees in regular, even, steady grow. A cold, backward spell of weather followed by warmth and showers I believe will often result in cracking of the fruit while who knows but that the reverse may result in puffy fruit? If this is correct philosophy, then we must all labor to correct by our cultural methods the irregularities that come from fitful weather conditions. Undue fertilization especially with highly nitrogenous fertilizers will always produce rank, vigorous growth, and if, as many believe, this tends to produce puffy and coarse fruit, the reason is not far to seek. Just enough fertilizer to keep the trees growing will be attended with the best results. This matter of coarse, puffy fruit is one of commanding importance and well may receive the closest attention of every grower.

* * *

THE ROSE HOPLIA.

Mrs. R. E. Lee, Merced, wrote me of a beetle that was working on her roses and sent me one loose in the letter, that I recognized as a Hoplia. I was not able to identify it, because of its crushed condition, and at once wrote for more specimens, sent in a box so that they would reach me in good condition. They have just come and prove to be the Hoplia sackenii.

These belong to the White grub, or May beetle family. This one is a short plumb beetle, almost as wide as long, is yellowish brown with a greenish head and thorax, and the wing covers fail to reach the tip of the body. It is covered with numerous whitish hairs. Like the common May beetle, which is a pest in the lawns and strawberry beds, the six-legged grub works on the roots of plants while the beetle feeds on the leaves of the roses, and other plants of the rose family. It does not confine its attentions to the leaves, for we find it devouring the blossoms of the blackberry, raspberry, loganberry and strawberries. In this way it prevents fruiting and does much harm. This beetle, though not so long or slim nor possesed of such long legs, is a close relative of the well known rose chafer of the East. As many of us know that insect is a serious scourge. This one is likely to be if it continues in large numbers. Of course we can use Paris green in the usual proportions; one pound of the poison to 200 gallons of water, with four or five pounds of freshly slaked lime. This must, of course, be kept well mixed and applied with force, so that it will reach every leaf on the tree. In case of the rose chafer of the East, the arsenites were not very satisfactory as a remedy against their terrible havoc. I cannot believe that they were not poisoned, but the rather believed that the numbers were so overwhelming that though we slew thousands, yet other thousands were ready to take their places. We may hope that the Hoplia will be less prolific. We have two other beetles in California that are related to these and are in certain seasons very harmful. The one is a bright soft brown beetle about one-half an inch long, a little larger than the Hoplia, and often called the apricot beetle, as it works most on that tree, often eating the foliage to an alarming extent. The other is the lawn or strawberry beetle, a rich, mahogany brown insect often called the May beetle, or May bug. Of course these insects are not bugs and should be called beetles instead. These do their major damage as larvae or grubs eating the roots from the grass and strawberries. I have had frequent occasion to comment on them in the Cultivator.

* * *

VEXATIOUS PARASITES.

Subscriber, Montalvo, is in sore distress, because of some irritating pests that have invaded the peace and quiet of his household. First the hired man was annoyed by the general attack of some insect, so small that he could not see it. He at first supposed that it was some mite or louse from the poultry house. He knows not where he got the pestiferous plagues. Now the invaders have spread to the man and his wife. The annoyance is well nigh beyond endurance. I called for specimens, and advised mercurial ointment, or kerosene and lard mixed half and half until relief came. He writes again that the remedies do not give entire relief. He also avers that though his druggist secured the miscreants, he is unable to find them. I can suggest no other remedy. If the plague is one of mites, such as occasion the barbers' itch, then I think the remedy, persistently applied, will, in time, rout the enemy. I know of nothing else other than mites that could evade the search which has been made to find the pests. I know, moreover, that the mites do sometimes resist attack for a long time, and they are so minute that they are very difficult to find. Thorough rubbing with the petroleum ointment will in the end give relief. I can give better advice if I see the enemy.

* * *

GOOSEBERRY MAGGOT.

Subscriber, San Juan, sends me a small box of gooseberries that are infested with a maggot. He asks through the Cultivator for name of the insect and a remedy. I find in each fruit a Dipterous larva or maggot. It has the pointed anterior end with the little movable hooks in lieu of the jaws of grubs and caterpillars. The opposite end is truncate or cut off square, and two brown spots mark the spiracles that take in the air. This may and very likely is a Trypeta fly. If so it is related to the Mexican Orange fly, Trypeta ludens. I shall rear them and then we shall know the species. The only remedy for such insects is to pick and destroy the affected fruit. In case of such fruit as gooseberries, this is a considerable task.

* * *

PICKLED BROOD.

Deputy Bee Inspector Hamback, San Jacinto, and others, send me samples of dead brood and wish advice. This is not foul brood, but the so-called pickled brood. The bees or larvae keep their shape, and turn dark. I think this is often caused by too little food. The bees permit the brood to die as there is not enough food to sustain them. I have found feeding to help this malady very much. There will be much of it this year, I feel very sure.

* * *

FEEDING BEES.

It will be necessary to feed bees this year or many will die. Any granulated sugar will do. I prefer to use equal amounts by weight of sugar and water. A good way is to mix these by use of the extractor, as I describe in my book. Put both in the extractor and then work the machine till the sugar is dissolved, and all is well mixed. This is a short easy way, and there is no risk of burning. Any of the feeders described in the books may be used. We must not let the bees die, as next year we may have a first-class season.

LONDON PURPLE FOR CUTWORMS.

For cutworms mix a heaping tablespoonful of London purple with four quarts of wheat bran. Moisten it so you can handle it and scatter along rows or hills or broadcast over field. This is the most successful way to fight them. Sprinkled on lawns where worms are taking the grass London purple has done excellent service in exterminating the pests.

TO GROW ALL KINDS OF WEEDS.

A dispatch from St. Louis recites that under the direction of Supt. D. A. Brodie, the final planting is being done on the government weed patch which adjoins the plant map of the United States at the World's Fair. In this weed patch every species of weed which troubles the farmer of any section of the country is to be shown.

Fruit prospects in Sonoma county indicate that the crops in various lines will be slightly less than last year, the only crop which gives indications of being heavier being pears. Prunes will probably be one-third to one-half a crop around Santa Rosa, and in Healdsburg the yield will probably be less. Cherries, plums, peaches and other fruits will be spotted, yielding splendid in some sections and poorly in others. Many of the large cherry orchards will yield only half a crop this year. Grapes and hops give evidence of good crops, the vines making splendid growth, but it is too early to make predictions on them.

STOCK IN ORCHARDS.

Now and then we see the advice given to pasture the stock in the orchards. But if the orchard is a modern one we doubt much if this advice is good. It might have been all right in the old fashioned orchard that had trees headed high, and of which the stock could not eat the lower branches nor gather the fruit from them. But in some of our best orchards the trees are headed so low that the branches almost lie on the ground, and in the growing season a large amount of fruit would be within the reach of the stock, whatever kind it might be. Poultry is about the only class of farm stock that can be given access to the orchard without running great chances of extensive injury resulting.—Farm Sentinel.

THE "BRIGGS" NEW IMPROVED

FRUIT PITTING MACHINE

MODEL 1904

Is Practical In All Its Workings

It cuts the fruit entirely round and pits it more carefully than can be done by hand.

The work is done with wonderful rapidity, six pits being extracted at each revolution of the wheel, whether the fruit be large free-stone peaches or plums of the largest size. It is capable of handling

Two Tons of Peaches, and One Ton of Apricots Per Hour

Thousands of tons of apricots have been satisfactorily cut and pitted with these machines.

It Does Not Push the Pit Through the Fruit

But holds the pit firm while the fruit is carefully removed without being bruised. The pits are delivered separate from the fruit.

The Advantage of This Machine Is Very Apparent

As one machine and one man practically represent fifteen or eighteen cutters. This perfect machine, which is guaranteed, is the result of 12 years of experimenting and improving. These machines will be rented for the fruit season for fifty dollars each; for sale at $150 f. o. b. Los Angeles. Address

The BRIGGS-KNIGHT Mf'g Co.

336 E. Second St., LOS ANGELES, CAL.

BY ERNEST BRAUNTON, IONE, CAL.

BAMBOOS.

Bamboos are so useful to the natives of the Orient that they have a saying, "You may eat your meals without meat, but you cannot live without a bamboo." Throughout China and Japan, where they are more numerous than elsewhere, bamboos are put to a greater number of uses than is any other plant in the whole known world. In the United States they are only used as objects of ornament for garden and conservatory. While most of the sorts are tropical, a few may be grown even where the temperature ranges below zero. More than three-fourths of the 200 species are found in India, China and Japan, though the Americas contain 70 species, only two of which are native to the United States. Our bamboo fishing rods are from Arundainaria Macrosperma, known from North Carolina to Florida (its native haunts) as the "Large Cane" and grows under good conditions to twenty feet in height. Our "cane" rods come from Arundinaria tecta, the "switch cane," found from Southern Indiana and Maryland southward.

On the Pacific coast we have no native bamboos until we get way down to the Andes in South America and in California where they thrive so well we depend mostly on China and Japan, though a few are from the Himalaya region. All do well with us, and in some sections are made a chief feature of the landscape. In places like the Gillespie grounds at Montecito they are grown in thickets of considerable size and it is difficult to make our people believe that these giants of forty or fifty feet are nothing but grasses; yet such is the case. They are as truly "grass" from the botanist's view as are the plants that make our lawns. While dwelling on the botanical phase of these plants it might be well to state that not all of them belong to the genus Bambusa, the plants of other genera, such as Arundinaria, Dendrocalamus and Phyllostachys being quite common in California.

Among the most common types here are the Bambusas proper. B. Arundinacea is a most majestic species from India and often attains 40 to 60 feet in height. It is said that after flowering this species always dies, and such a story is current regarding bamboos in general. The facts in the case are that very few perish after the ordeal, though the plants are often materially weakened and the canes that flowered alone die.

Phyllostachys aurea (B. aurea) is a golden stemmed species from Japan, very hardy and growing to a height of not more than fifteen feet. It is one of the easiest of cultivation and for that reason is very commonly met with.

Bambusa Aurea.

Bambusa disticha, better known to the nurseries and gardens as B. nand is a curiosity in the family, its leaves being produced in two vertical ranks from whence it obtained its specific name, disticha—leaves distichous. This is a rare plant, of quite recent introduction to the garden and its origin, thus far, remains somewhat obscure. It is quite a dwarf in the family, growing only two to three feet high. All bamboos are perennially thirsty and generally inhabit swamps, though some on the Himalayas and Andes reach 10,000 or 15,000 feet altitudes.

* * *

UGLY GARDENING.

Plato said: "The greatest and fairest things are done by nature and the lesser by art." How often have we read, in the work of great men that good results, especially in gardening, are only obtained by following nature as closely as convenience and utility will allow. So many understanding writers warn us away from the rocks of conventionality and yet too many continue each year to plant out "carpet beds" of ugly design, planted in a still more ugly fashion. Too often our parks are to blame for this. Just where we might expect some pleasing and profitable instruction we see the landscape marred by fashion plates of geometric design. How different in this respect the parks of Los Angeles and the Golden Gate Park in San Francisco. Here every park must have a patchwork design in bedding plants—there are planted in a natural way. These stereotyped plans are sufficiently obnoxious in parks—doubly so in the city garden—and a positive crime in rural districts. Robinson truly says: " We hold that the only true test of our efforts in planting or gardening is the picture. Do we frighten the artist away or do we bring him to see a garden so free from ugly patterns and ugly colors that it would be worth painting. There is not, and there never can be, any other true test."

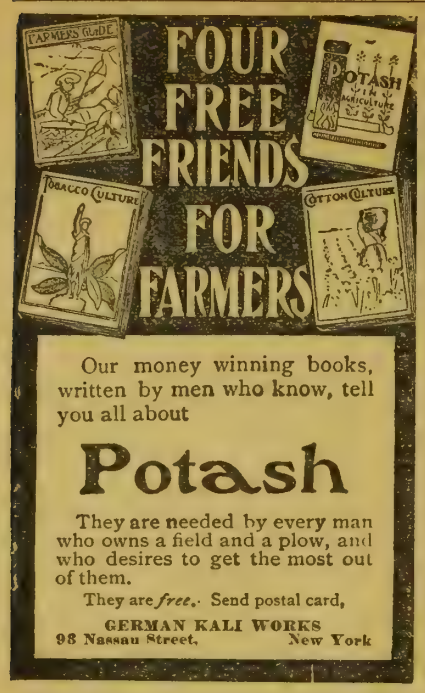
The Fig in California.

After more than twenty years of experiment fig raising on a wholesale scale has become a pronounced success in the United States. The bulk of the figs produced in this country are grown in Central California, and more than 6,000,000 pounds are now shipped annually from the great "fig belt." As figs are the most valuable of all wholesale fruits, being worth in the neighborhood of $80 per ton in their crudest state, the discovery of the secret whereby the Smyrna fig can be made to thrive as well in its adopted land as in southern Europe is one of considerable importance. The American fig is adapted to almost any warm climate, and it is reasonable to expect that this industry will rapidly assume a position of importance in the fruit orchards of America. The first successful effort to fertilize the fruit of the fig tree so that it will not become "soured" was made by George C. Roeding of Fresno in 1898. Although it is only four years since he succeeded in his experiment, today the fig crop amounts to more than $850,000 each year. At the present rate of increase California will be shipping several million dollars worth at the end of two years more. Unless the Smyrna fig is fertilized by a certain wasp the green fruit will not mature. This little insect acts only upon the Smyrna fig. The reason for this is that the flowers cannot be fertilized because they have what is known as mule or malformed female flowers. To introduce this wasp from Smyrna was the problem which faced the fruit-growers. It was brought across the ocean in glass cases and tenderly packed in cotton. But no sooner had it reached America than it promptly died, and all expectations of fig-growing vanished. The Smyrna wasp breeds in the inedible fruit of the wild fig. To all outward appearances the fig tree develops fruit without first producing flowers. But these appearances are misleading, for, on cutting the fruit open, it will be found that it contains a large quantity of inconspicuous flowers closely grouped around the rind. Male, female and gall flowers are found in the Capri or wild figs, but it is only in the gall flowers that the wasp makes his home. The Smyrna fig contains nothing but female flowers, and, unless these are fertilized by the wasp, which carries on its wings pollen from the male wild fig, the fig never reaches maturity, but drops withered and undeveloped from the stem. It was customary to fertilize the Smyrna figs by means of a toothpick which had been thrust into a wild fig, and later by means of a glass tube. But such a means could never prove profitable, nor could it take the place of the wasp. The wasp dies in its efforts to fertilize the fig.

It was not until the co-operation of Dr. L. O. Howard and Walter T. Swingle of the department of agriculture with Mr. Roeding that the wild fig containing the wasp in its unripened fruit was successfully imported. The manner in which the wasp fertilizes the fig is extremely interesting. The young wasp, emerging from the wild fig bears upon its wings a heavy pollen, barely discernible. The wasp enters the Smyrna fig at the open end and the pollen causes the fruit to develop rapidly and to ripen. The wasp has three generations each year, produced in three successive crops of the wild fig, known as the winter, spring and summer crops. It is the wasp emerging from the spring crop which are used to fertilize the Smyrna figs. The California fig, of which California horticulturists are exceedingly proud, is sweeter and richer in sugars than any fig grown in the Orient. The propagation of the wasps takes place in the following manner: The male insect, which is wingless, is the first to appear from the galls. It crawls around in the fig, and with its powerful mandibles makes an opening in which the females lay, and then perishes in the fig in which it was born. The female insect, which is winged, enlarges the opening in the gall made by the male, and as it crawls through the zone of male flowers surrounding the orifice of the fig its body becomes covered with pollen. It then forces its way into the female fig, thus fertilizing the fig, but its own object, that of laying eggs, is frustrated, for the flowers of the Smyrna fig are so constructed that it is impossible for the insect to deposit its eggs, and, finding it has made a mistake, it leaves the fig, only to drop to the ground and perish. The successful introduction of the wild fig tree made fig raising possible on a wholesale scale in this country. Many of the trees have not yet come into full bearing, but the introduction of the fertilizing wasp has brought about the most sudden and one of the most profitable developments in any branch of fruit growing. This year California's fig crop is well over $500,000, and if indications come to pass and the young trees now growing bear well, the ensuing crop will amount to several times that sum. The Smyrna figs constitute nine-tenths of the entire output. The other varieties are the common black fig and Adriatic, or white fig, of which about 300 tons are raised every year, which are produced for home consumption and for shipping fresh to the local markets.—Hamilton Wright in Chicago Weekly Chronicle.

HOW TO REMOVE GREASE.

Cornstarch will remove grease most effectively. Rub a little fresh, dry cornstarch into the soiled place, and it will at once begin the process of absorbing the grease. Brush the first used off carefully from the garment and proceed in the same way with more until the disfigurement has entirely disappeared.



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Coast News and Notes

OF INTEREST TO FRUIT GROWERS, STOCKMEN AND AGRICULTURISTS

MISCELLANEOUS.

The new court house at San Jose will cost $124,927.

High water is distracting the people of Tehama county.

The Chronicle says Santa Paula is in sore need of a hotel.

The Lompoc creamery is turning out about a ton of butter daily.

The school census of Corona has gained about 22 per cent the past year.

Flour has dropped twenty cents a barrel at San Francisco. A still greater reduction is anticipated.

Monrovia was eighteen years old on Tuesday of last week. It is certainly a fair daughter of the fairest State in the Union.

Operators are trying to raise the price of oil in Kern county. It has been too low to pay operating expenses for some time.

The State river and harbor delegates at Sacramento, last week, declared in favor of State control for levees and reclamation work.

A London company has made an offer for ten thousand acres of land near Lompoc. The price asked is near a million dollars.

The city of Sacramento has begun a systematic inspection of all the dairies of the county from which the city obtains its milk supply.

The Italians of Stockton have formed a strong trust. The subject on which the trust has been formed is a strong one to deal with.

The Riverside Enterprise has changed proprietorship. Castelman, Daniels and Bell retire, and H. H. Monroe and O. W. Barton assume charge.

The city council of Stockton has prohibited the use of air guns, dynamite cartridges, explosive canes and all dangerous fire arms on the Fourth of July.

A new pipe line between 80 and 90 miles in length will at once be laid from the Sunset oil fields near Bakersfield to the ocean by the Spreckles-Crocker combine.

The San Diego Chamber of Commerce is directing attention to silk culture and proposes to make that industry a prominent business interest of San Diego county.

The Alameda Encinal has issued a very elegant boom edition. Thirty thousand copies were issued. Editor Weeks is doing great service in Alameda for its development.

The city trustees of Anaheim are laying out more work this season than in all the previous years of the city's history. Street oiling, curbing and sidewalk making are in the plan on a large scale.

The Civic Improvement Club of Fresno has taken up the matter of cleaner streets and will press the city council to push the matter till all the streets in Fresno are cleaned and kept clean. The women are behind the effort.

A correspondent at Corona tells of the raising of a frog from a great depth in the earth by a sand pump used in cleaning out a well which was being bored. The frog was as much surprised to see the sun, as the pumpers were to see the frog.

At San Rafael, mosquitos have become so bad that a scientific, systematic war is being waged against them. All the ponds and washes where they breed are being sprayed with petroleum according to the methods used in Cuba for the suppression of the pest.

Total salmon output for season of 1903 in the nine districts on the Pacific Coast, according to the figures compiled by the Trade Register, of San Francisco, aggregated 3,592,574 cases as against 4,311,142 in 1902, and 5,056,989 in 1901. California's production the past season was 8,850 cases as against 16,550 in 1902 and 17,500 the year preceding. Over 50,000,000 salmon eggs were taken at the McCloud river hatchery, and more than 20,000,000 were secured at the hatchery near Tehama.

AGRICULTURE.

Florida tomatoes are coming into California in carload lots.

Ten thousand acres will be planted to beans in Los Angeles county alone this season.

The Escondido Times informs us that the hay crop is turning out much better than was expected.

Oregon and Washington strawberries are moving finely in the San Francisco market and have also begun to move to eastern points.

The Chino Champion says the foggy weather of the past two weeks has been favorable for small grain in that locality. Grain needed that sort of weather.

The Fallbrook Review notes that from the amount of harvesting machinery brought into San Diego county the crops are not a failure by any means.

The Tulare Register announces that a big crop of Egyptian corn will be grown in Tulare county this season on the lake lands, which have been prepared for corn.

Specimens of asparagus grown at Isleton, this State, have been sent to the St. Louis Exposition. Isleton and vicinity is becoming famous as an asparagus producing section, and a very large pack has been made to date this season.

Theodore Kerney of raisin fame has gone on a tour to Europe. He is reported to have said before leaving this country that he will have nothing more to do with the raisin association. He proposes to market individually his product.

Bean planting on the San Joaquin ranch in Orange county is nearly completed. About one-third of the acreage usually planted will be planted this year, owing to the dryness of the season. The acreage planted will be between 5000 and 6000.

Returns received from the Department of Agriculture show that the grain acreage in California has fallen off 391,000 acres from that of last year. This is due to the unpromising outlook early in the season and to other uses to which the land has been put.

The Santa Paula Chronicle says: Farmers report the ground in excellent condition for bean planting and that the apricot crop, while not prom-

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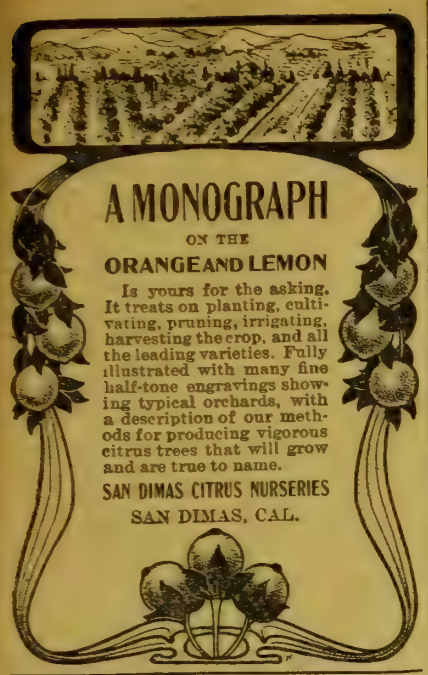
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ORPHANS RECEIVED.

The following children have been received in the Boys' and Girls' Aid Society Home from January 1st, 1904, to April 1st.:

Half Orphans — Wentworth Wolfe, aged 12 years, blue eyes, dark hair; Joseph Miller, aged 12 years, brown eyes, dark hair; Flora Haibe, aged 10 years, blue eyes, light hair; Margaret Haibe, aged 8 years, blue eyes, light hair; William Haibe, aged 6 years, light hair, blue eyes; Foster McMullen, aged 11 years, blue eyes, light hair; Lionel Dupes, aged 8 years, blue eyes, light hair; Pearl Dupes, aged 4 years, brown eyes, light hair; George Nave, aged 10 years, brown eyes, light hair; Ben Odell, aged 8 years, brown eyes, brown hair; Ogle Edwards, aged 11 years, blue eyes, light hair; Virgie Edwards, aged 7 years, blue eyes, light hair; Rosebud Edwards, aged 9 years, brown eyes, light hair; Frank Welkins, aged 8 years, brown eyes, light hair; Louis Yenies, aged 8 years, black eyes, dark hair; Bruno Yenies, aged 6 years, black eyes, dark hair; Joseph Trotter, aged 5 years, brown eyes, dark hair; Domingos Frank, aged 9 years, black eyes, dark hair. Herbert Grimes, aged 4 years, black eyes, brown hair.

MRS. E. A. CHRISTIAN, SUPT.

Coast News and Notes

CONTINUED

ising a heavy yield will, if present conditions continue, be productive of fruit of large size and of unusually good quality.

The Imperial Press makes the statement that $700,000 will go into the pockets of the farmers in that section this season; divided as follows: Hay and grain, $275,000; dairy $100.000; pasture $75,000; hogs, cattle, corn, alfalfa and other products $250,000.

LIVE STOCK.

There is a greater demand for horses in Ventura county, according to the Ventura Free Press, than for several years.

The Rural Californian notes that the brisk demand for mules in Southern California has brought the price to $400 a span.

Butter dealers throughou the State are anticipating a much larger make than last year because of the increase in dairy business.

The dairymen of North Seattle are anxious to establish a creamery on a large scale. The plant will probably be put up at Seattle.

Several cattle men from Nebraska and Missouri have bought lands in Mendocino and Humboldt counties, and will engage in cattle raising.

The young turkeys of Tehama county are afflicted with rheumatism, which eventually kills them. It is thought to be owing to the continued rains that the malady has attacked the turkeys.

A weed growing around Porterville has caused the death of several cattle. It is called "Tree Tobacco" and is regarded as poisonous. It will kill humans as well as animals. Dry weather causes it to sprout and grow very rank. It resembles wild cabbage in looks.

One reason why people engaged in dairying are prosperous is because it is a cash business. There is no credit with the old cow. We feed her today, and tomorrow she pays us back in cash. The dairyman does not have to tell his hired man that he will pay him when he sells his wheat or a bunch of lambs, or when the peaches are marketed. He has the cash every week or every month. The dairyman need not run a bill at his grocery or anywhere else. His business is a cash proposition and he can pay as he goes. This is one of the basic principles of prosperity. Run up no debt and pay as you go. It gets a man into the habit of doing things on business principles, and when he does this he has started on the road to prosperity.

HORTICULTURE.

The apricot crop at Anaheim and vicinity will be good.

Red Bluff anticipates a fine crop of prunes, pears and peaches this season.

The fruit crop of the State will be short this fall, but prices will be higher than last year, so the general average will be maintained.

The Citrus Union began packing the Valencia orange crop at Exeter this week. About twelve cars will go forward from this point.

On Tuesday of last week one hundred cars of oranges were shipped from Riverside to eastern markets and ten cars to San Francisco.

A co-operative fruit growers' convention of Southern California will be held in Ventura soon to perfect an organization of the fruit growing interests in Southern California.

The big cannery at Ontario will be run this season. This plant is one of the finest in the State and will be put in readines for operation at once so as to be ready for operations as soon as the fruit crop will warrant.

From the 500-acre lemon grove of the Arlington Heights Fruit Co., near Riverside, 178 carloads have been shipped this season; 175 carloads are in the curing houses; and there are ripe on the trees ready for picking within the next sixty days about 100 carloads. This makes a total of 453 carloads of lemons from 500 acres thus far this season.

FOUNDATION OF DAIRYING.

What has destroyed the dairyman's opportunities is that he directs his work in the wrong direction, says the editor of Farmers' Sentinel. He is constantly building a structure without giving a thought to the solidity of the foundation. The success of all enterprises is to begin right and take time for doing the work properly. The foundation of dairying is the cow. The dairyman has fully understood the value of improved appliances to be used in dairying, and is not slow in the acceptance of every tool and implement that saves labor, but he has refused to breed his cows, going on the market to buy them in order to replace those that have dried off with others that are fresh in milk. In so doing he has wantonly sacrificed all that has been done in his interest by breeders, and made himself poorer by using animals that could not possibly afford him a profit under any circumstances. He estimates the cost of raising the calf, and buys his cows because he will not wait for the calf to mature, although the calf might return fourfold on his investment. It is the raising of better cows, those of breeds which will insure greater capacity of production that is at the foundation of successful dairying, for with the best animals to be used the farmer can convert his products into milk and butter at less cost, and meet the market prices well fortified against the losses he now frequently endures by using inferior stock.

SHELTERING ANIMALS TO SAVE FEED.

By actual experiment it has been demonstrated that the saving of food by means of good shelter is equal, in a short time, to the cost of the shelter, says Agricultural Epitomist. Pigs, when provided with good shelter and warm quarters, by the experiments made, fattened on much less food than was required to simply keep them alive in an unprotected state. The comparison is an important one. In the first place, the animals not properly provided with suitable accommodations did not gain in weight at all, but really destroyed or wasted all that had been provided for them; for the food was converted into heat, in order to give the animals protection that should have been furnished with boards and shingles. This seems to answer the question whether feeding an animal on the products of the farm, which require labor to produce, is cheaper than the shelter which, when once erected, lasts for a number of years and does service for successive seasons. Such facts prove that quality of shelter is as important as the quality of the feed. Furthermore, as a pound of flesh or a quart of milk is easier saved than regained after it has been lost, it is a poor policy trying to make cattle gather up the dried waste blades of fodder in the cornfield, or the late grass in the pasture. Frostbitten grass, especially, lacks in juiciness and in nutritive qualities, and cows having to depend upon it until very late in the fall are not only in danger of losing their calves, but their lives, during the coming winter. They can be carried through much more economically by admitting them to the stables in fresh, healthy condition than they can if they are wasted by cold, or are half famished when put up for the winter. Their quarters should, therefore, be made ready for housing them as soon as the first cold days and nights arrive. This applies to all the stock on the farm; it will do as much as the best of feed to keep them in thriving, improving condition. More comfort, more flesh.

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Friday, May 27, 1904

CURRENT EVENTS.

The Agency Goes Out of Business.—Too late for mention in the columns of last week came the announcement of the board of directors of the California Fruit Agency, that after September first the Agency will discontinue business, and thereafter the Southern California Fruit Exchange will operate distinct and apart from the California Citrus Union, which will likewise become an active marketing factor.

This announcement comes with some surprise at this time, although it was not unexpected. As has repeatedly been stated in the Cultivator, dissatisfaction has been expressed by growers at the results obtained through the merger. It was anticipated that the union of the two great interests—the Exchange and the Union—would relieve the marketing proposition of the sharp competition which surrounded it. Against great odds, apparently, the Agency has contended this year, and the result of its labors has been unsatisfactory. Various reasons have been assigned for this bad condition, all of which have heretofore been given. But the fact remains that the merger as a distinct proposition has failed of its purpose and the interests heretofore combined will now operate separately. The orange growers of the State, those who have been residents for several years, know the results which came from the operations of the two distinct interests. Whether there will be a return of those conditions when operations are resumed remains to be seen. But it is not anticipated. By some the auction plan is presented as the panacea for the ills of the marketing problem. Against this is the experience of many, if not most, of the growers of the country, especially those who tried the plan and abandoned it some time ago. General S. P. Jennison is one of the most experienced orange growers in Southern California. He takes no stock in the proposition. The Exchange gave him what he desired and he prospered by it. It was in the line of co-operating marketing, and it proved the salvation of the orange industry at a time when it was on the verge of collapse. To adopt the f. o. b. plan would be individual competition, and the growers say they know what that means from experience. Some new investors in the orange trade favor this method, but like the local option plan, wherever it has been tried, it has not proven satisfactory—at least not wholly so. The Citrus Union comes out with an announcement that it will again engage in business on its own account, selling fruit consigned to it as it formerly did. Whether there will be the strenuous competition between it and the Exchange which characterized the business energy of the past, of course, remains to be seen. Naturally this will be the case unless there shall be an understanding between the two interests that cutting prices is not to be permitted. There will have to be a hard and fast rule adopted by the managers of the Exchange and the Union, or the business of handling the orange and lemon crop in California will become demoralized. That is the natural trend of trade and it applies to the fruit industry as well as to other branches of business.

Reading between the lines of Mr. Naftzger's published interview in the Times, of this city, it is apparent that he contemplates retiring from the head of the Exchange at no distant day. It is known that his health is not good, and this, with his other interests may appeal to him to relinquish his connection with the Exchange—at least as its executive head. He has been an arduous worker for the Agency the past year, and his efforts have been appreciated if we may judge from the vote of confidence given him by many local associations throughout the country. The Cultivator is too much interested in the success of the orange industry in California, to hope for other than the best results from the work of both the Exchange and the Union. It is to be hoped the growers may not again be subjected to the losses sustained in the past when these interests worked apart.

* * *

For Good Roads.—General Miles, who recently retired from the command of the army, has made a suggestion for the betterment of the roads of the country which appeals to the promoters of this important interest as worthy of much consideration. He suggests that 5000 men in the army be used in times of peace as an engineering corps to locate the best and most feasible roads and co-operate with the surveyors of the various States in creating public highways. He suggests that the Government would be vastly benefited by such a plan when it becomes necessary to use such roads. The idea will appeal to the country with force, for it is a well known fact that the maintenance of the army is an enormous expense which is borne by the country and which the country receives no benefit from, except in time of war, or insurrection. Thousands of men go into the service to remain but three years, they see no actual service all that time, they are supported with no special return to the government, and at the close of their term of enlistment are discharged. It does seem as if they might be utilized during their connection with the army as road makers, under the control of the States, and thus make some adequate return for the expense of their maintenance.

In some foreign countries the soldiers work upon the roads, and it is a well known fact that the roads in Germany are among the best in the world. There are some things we can learn from the people of the old world, and road making is one. General Miles makes no mistake in advocating the use of members of the army to build American roads. The best engineering talent is in the army and the men are there to do the manuel labor. We like the suggestion.

* * *

Enlarging the Rural Delivery Service.—Before adjournment the Senate amended the postoffice appropriation bill so as to provide that rural free delivery carriers "may carry merchandise for hire and receive subscriptions for and deliver newspapers, magazines and other periodicals for and upon the request of patrons residing upon their respective routes, whenever the same shall not interfere with the proper discharge of their official duties, and under such regulations as the Postmaster-General may prescribe."

It will be seen that the Postmaster-General is thus left large discretionary powers in the regulations he shall make regarding the extent of the extra mail the rural free delivery carriers shall handle. It is to be hoped, for the convenience of persons living in the country, that the regulations prescribed by the Postmaster-General will be as liberal as may be compatible with the good of the service. The rural free delivery system was established for the purpose of bringing residents of the country districts into close and prompt communication with the cities. Under the operations of the system residents of rural sections have been enabled to get daily newspapers a few hours after publication. The system has worked well where tried through the liberal policy pursued by the Postoffice Department. A recent ruling of the department, however, seemed to deprive rural free-delivery carriers of certain privileges which they had enjoyed in respect to delivering newspapers to patrons on their routes. As the Government derived as much revenue from postage under the former system as it would obtain under the new ruling, there seemed to be no necessity for the change. Moreover the system which the department modified facilitated greatly the delivery of newspapers and other mail. The Senate amendment proposes to give the rural carriers certain privileges which are distinctly in the interest of their patrons. It is hoped that the regulations of the Postoffice Department will not curtain these privileges so long as they are exercised for the convenience of country residents and do not impair the efficiency of the service.

* * *

Paul De Longpre.—There are many distinguished people in California, a few eminent. There are musicians of more than State wide reputation, artists in oil painting, china decoration, house decoration, and floriculturists of almost national reputation. But the one painter whose name probably has a broader acquaintance than any other on this coast is Paul De Longpre, of Hollywood. This wonderful man is a painter of flowers, nature's artist, who lives in such close touch with the lovliness of flowers that he reads their very soul and then with almost supernatural touch reproduces their living presence on canvas. It is no exaggeration to say that his home, his gardens, his studio, are visited by thousands of tourists annually who go away therefrom with broader visions of the beautiful and souls filled with the sweetness of the higher life which the true artist alone is capable of imparting. No wonder men and women are charmed with De Longpré's flowers; no wonder they feel an inspiration in his pictures; no wonder they long to touch the vine and rose clad trellises that fill his ample grounds and take therefrom a flower, as a souvenir of their introduction to an almost fairyland and a painter of world-wide fame. It's an inspiration to any community to possess an artist of such finish. The good he does lives with him and is as boundless as his genius.

* * *

Prof. Ernest Braunton.—The Cultivator is glad to chronicle the promotion of Prof. Ernest Braunton, one of its staff contributors, who this week goes to the Preston Industrial School as instructor in horticulture. While this means a promotion for Mr. Braunton, it also means much for the school, for without doubt he is one of the best equipped teachers in horticulture to be found on the coast.

As a writer and lecturer on horticultural topics few men excel him. His reading is extended and his knowledge so practical he can not well help proving a success in his new field of labor.

California Cultivator

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The California Fruit Agency Will Disband

THE NOTICE OF DISSOLUTION

A statement has been issued by the California Fruit Agency in which an official announcement of the dissolution of the merger is made and in which the Agency's reasons for the step are presented. The statement follows:

At a meeting of the board of directors of the California Fruit Agency, held May 20, 1904, the following was unanimously adopted:

"As this organization has not received the general approval and earnest support of the growers necessary to complete and permanent success, we deem it advisable to discontinue business on September 1 next, closing the accounts as soon thereafter as possible."

In making the above announcement a word of explanation is in order: The California Fruit Agency was projected in full confidence that it would provide marketing facilities of a better character available to all citrus fruit growers, and at less cost to the grower than ever before known. Increased crops and competition made some form of relief imperative, but these very conditions added to an eastern winter of hitherto unknown severity made the complete success of any marketing system impossible.

The tireless efforts of the Agency to overcome these troubles saved the crop from total ruin, but did not save the agency from criticism. The organization was the result of long and careful thought; its operations have been faithfully administered, under the guidance of many of the most experienced growers and shippers. Still it was made the target for every disappointed grower and operator outside, and worst of all, some growers inside were led astray, and themselves became critics.

Fortunately events have turned the tide in our favor and we have during the last few weeks under normal conditions proven our ability to market the fruit profitably even with very heavy shipments and in spite of underselling by competitors.

But the growers are themselves the jury, and if they have based their verdict against the agency on false testimony, and decided against themselves, no one can be heard to question their right to do so.

The California Fruit Agency will, in deference to the express views of its growers, discontinue business on September 1, next, and thereafter the Southern California Fruit Exchange will resume business, and the California Citrus Union as a corporation will become an active marketing factor.

The sentiment among the directors of the agency is unanimous in favor of maintaining the most friendly relations between these two great marketing factors.

CALIFORNIA FRUIT AGENCY,
By order of the Board of Directors.

* * *

FRUIT EXCHANGE—ITS SAY.

The Southern California Fruit Exchange has also set forth its position. Its statement follows:

Fruit Exchange, Los Angeles (Cal.) May 20, 1904.

To the exchanges: Gentlemen—On March 28, 1903, we said:

"After long and painstaking negotiations, we have reached a plan which we confidently expect will very greatly facilitate the marketing of our fruit. It is needless to say that menaced by increased competition from Florida and the islands, as well as from almost every other class of fruit, everything possible must be done to find profitable markets for our own increasing crops. The plan we have devised, contemplates the use of one selling medium through which a very large percentage of the California crop can be marketed, a thing we have always sought to accomplish through the exchange."

This undertaking was entered upon in good faith and every effort in our power has been put forth to make it a success.

The exchanges at that time controlled over 40 per cent of the citrus fruit crop and it was hoped that fully as much more could be brought under control, all to be marketed under one system. The growers outside the Exchange did not come into the organization in such numbers, and give such support to it, as was necessary to complete success. There were also other nearly insurmountable difficulties to contend with, which should not be overlooked by growers. In voting to discontinue the business of the California Fruit Agency on September 1, next, it is with the expectation that the Southern California Fruit Exchange will resume active business at that time with such changes in policy and plans as changed conditions may require, or such as the growers throughout the local exchanges may dictate.

The contract of the Exchange (meaning the contract between the Southern California Fruit Exchange and the local exchanges) remains in full force until August 31, 1905.

Many growers have complained that under the Agency agreement new members could not be admitted to the exchanges. Their desire to co-operate will now be tested, as the exchanges will be free to take members and will be prepared to market fruit after September 1.

Opposition from parties with adverse interests and criticism from parties who know nothing about the business will probably be continued, but Exchange members should pay no attention to these things, but give full support to a marketing system under their own control, and which has heretofore proven its efficiency.

You will be kept fully advised of the progress of events.

SOUTHERN CALIFORNIA FRUIT EXCHANGE.
By order of the Board of Directors.

* * *

CITRUS UNION'S STATEMENT.

In defining its position in drawing out of the alliance with the Exchange, the Citrus Union makes the following statement:

"By unanimous action of the board of directors of the California Fruit Agency, taken May 20, it was agreed to dissolve September 1 next.

"The California Citrus Union, as owners of 50 per cent of the stock of the California Fruit Agency, was influenced to take this action, believing that the best interests of its growers require that the Union should act as their direct marketing agent, in view of the fact that we are firm believers in the f. o. b. plan of selling the fruit and have found it impossible to bring about an f. o. b. selling policy within the Agency.

"The Agency, being composed, as it was, of the Southern California Fruit Exchange and the California Citrus Union, two factors who have consistently advocated two directly opposite methods of selling: That of the Exchange, of selling the fruit delivered; the Union of selling the fruit f. o. b. and thereby creating a home market for the product. While both methods, under a compromise, were supposed to be the policy of the Agency, it can readily be seen that one or the other must finally be the prevailing method used and unfortunately, as the Union believes, the sales delivered have predominated, although the Union has continuously advocated and earnestly advised the f. o. b. plan.

"While the Union knows that selling f. o. b. is hard work, takes constant effort and the greatest degree of ability, and while it realizes that it may not be possible under all circumstances and conditions to sell all the fruit f. o. b.; it believes that if the effort is made by mediums that are earnestly in favor and that really believe in this plan or selling the fruit, a great percentage of it can be sold in this way, and that by this method of fixing a value on the product the remainder will bring nearer its true value.

"The Union will employ the former sales agents of the f. o. b. packers, will have an active agent in all markets now covered by the Agency, and, besides, will employ many brokers in markets not now so covered, it being its policy to bring back to California the assistance and co-operation of many factors who have been interested in handling California oranges and who have been recently more or less antagonistic. Before taking this action, we received the assurance of their hearty co-operation from a large number of our growers with whom we had an opportunity to discuss the matter.—California Citrus Union, F. P. Fay, president."

ENDORSE MR. NAFTZGER.

Editor Cultivator: At a meeting of the directors and managers of the various associations composing the Ontario-Cucamonga Fruit Exchange, held at Upland, May 19, 1904, with an attendance of forty-four out of a possible fifty-two, the following resolutions were unanimously adopted:

1. That we, directors and managers of the Associations of the Ontario-Cucamonga Fruit Exchange, in meeting assembled, give to Mr. A. H. Naftzger, president of the Southern California Fruit Exchange, our unqualified support until such time as he be proven guilty of the charges made against him.

2. That we approve the Southern California Fruit Exchange's method of marketing our fruit.

3. That this meeting has faith in the ability of the Southern California Fruit Exchange to handle the fruit of this district to advantage, and that it approves of the dissolution of the California Fruit Agency.

The secretary was instructed to furnish a copy of the above resolutions to the Cultivator and other papers, with a request that the same be printed. In compliance with these instructions, I herewith hand you the above. Yours truly, B. A. Woodford, secretary.

CLIMATE AND CROP REPORT

The weather and crop conditions for the week ending May 23 are reported as follows by Section Director McAdie:

Grain continues in fair condition in most places, and so far does not appear to have been seriously damaged by the wind. The warm weather caused rapid development of wheat, oats and barley, and harvesting will commence within a few days in some sections. The yield will not be equal to early expectations, and in southern sections the crop will be very light. Haying is progressing rapidly in all sections, and reports indicate a very good yield except in the south. Hops made rapid growth during the week and now give indications of a large crop. Bean planting is in progress in Ventura county. Sugar beets and vegetables are doing well. Pasturage is still plentiful in most places, but is failing in others, and cattle are being driven to the summer ranges.

Grapes are in unusually good condition in all parts of the State and the present outlook is that the yield will be very large. Deciduous fruits are ripening rapidly, and most varieties are in good condition in nearly all places. There will probaby be light crops of apricots, apples and peaches in some sections. Citrus fruits and walnuts continue in excellent condition.

A Serious Menace.—At the great manufacturers' banquet, held in Chicago this week, addressed by some of the most distinguished business men in the country, particular stress was laid on the point of the abnormal growth of our cities and the decline of our agricultural districts. Said Mr. Brown, vice-president of the New York Central Company: "No man can regard the growth of the great centers of population with their sinister, dangerous, preponderating influence in the politics of the State and nation, without alarm. The remedy for this evil and the safety of the nation lies in building up, encouraging and increasing our agricultural population. More farms and more prosperous farmers, greater in number and prosperity, offer our strongest hope. The reclamation of our arid lands, the settlement of the millions of acres of still uncultivated fertile lands of the Northwestern States promise much in this direction, but with largely increased products of the farm must come vastly broadened markets, or the labor of the husbandman will indeed be in vain. It behooves us then, as a nation, to study well the markets, present and prospective, of the world."

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HANDLING MILK IN CITIES.

Robert H. Pethebridge, city milk inspector of St. Louis, in an address before the Illinois State Dairy Association, recently made some suggestions well worth considering by every producer and shipper of milk to any city, no matter where located. So valuable and so practicable are some of these suggestions that we deem them worthy of publication in the Cultivator. To that end the address is herewith presented in part:

"This subject claims the attention and consideration of every dairyman within shipping distance of the city.

Milk, for the producer and dealer to be a successful product, must be produced, kept and handled under sanitary conditions, and the first point that I shall make will be "Cleanliness."

Cleanliness in the food, feeding and keeping of the cows, so that only the purest and best of food for the production of milk be given; the stables to be well ventilated and kept clean and free from any bad odors by the use of disinfectants and a coat of whitewash in the spring and fall of each year.

I would recommend the crude carbolic acid for the sprinkling of the floors of the stables, and a little put in the whitewash is a great help in the purification of the building.

Cleanliness with the cows, to keep them well groomed and free from the filth which is so often seen on their flanks and legs.

Cleanliness in the utensils, so that no contamination can come from that cause.

I have seen cans arrive at the dairy with the milk in them where I could scrape with my thumb nail around the seams in which a nasty yellow grease has accumulated, and the stench of same is disgusting and comes with the neglect of proper washing.

All dairy utensils should be first rinsed out with cool or lukewarm water and then well scrubbed with a brush in hot water containing sal soda or washing powder (Gold dust is very good), and then well steamed out if you have a steam boiler; if not, well scalded with boiling water.

I say boiling water, as the tendency is not to have the water hot enough.

The water used for cleaning the pails, cans and all other purposes in connection with the milk should be from a source at some distance from the house and stable, so that there will be no danger of pollution by sewage; if not of the best character, it should be boiled.

It is not wise to use a cloth for straining your milk, but a fine wire strainer, which, if of proper fineness, will remove all that is possible.

If a cloth is used, it should either be thrown away after using or thoroughly washed and scalded and hung in the sun to dry.

More trouble arises from the use of a tainted strainer cloth than from what would be left in the milk after being put through a wire strainer.

Last but not least, cleanliness in yourselves and attendants.

Clean coat and overalls, and see that the hands are well washed before milking each cow, and milking done with dry hands.

The practice of milking with wet hands is very filthy, and I have seen the drops of dirty milk fall into the pail, which would contaminate a whole milking.

Now the milk shippers sometimes wonder why the dealers in town charge them with so many sours, but it is not to be wondered at when the matter is looked into.

When you consider that in milking the milk is distributed in a fine spray through the air, which, if not pure, must naturally infect and form the basis of impure milk.

If you will follow the rules of cleanliness and cooling (especially if done with an aerator and ice water)) you will have no necessity for using preservatives and your milk will reach its destination in the best of condition.

In the conveying of your milk to the depot or receiving station, be sure to protect the cans with wet blankets over and around them in the summer, and the evaporation will keep them cool; and in the winter, use dry blankets to keep them from freezing.

The individual shipper has a difficulty here on account of the irregularity of the trains, and sometimes he will arrive at the depot and find the train hours late, whereas the milk should be delivered to the dealer in the city long before the time of its leaving.

Much the better plan, where possible, is to have a receiving station in which the milk is kept until the train arrives, when it goes direct from the ice-box to the milk-car without gain of temperature.

Dealers, shippers and creamery men should unite to get the railroads to put on refrigerator cars, and on those roads where the milk shipments are large to put on regular milk trains.

I am sure the railroad companies would be glad to enter into negotiations for the establishment of shipping stations at their respective depots, as it would aid their revenue in other ways, besides what might be derived from the milk business.

In the case of dairymen who live at a far distance for the delivery of milk, they should engage in the cream shipping business, and the rules which apply to milk are the same for cream. I would advise your getting a good separator, and get the separating done as quickly as possible after milking and cool the cream off to as low a temperature as possible with ice water, direct from the spout of the separator, and the minimum quality must not be less than 12 per cent of butter-fat and free from all adulterations, such as preservatives, coloring or thickening matter.

My experience of the past year as Milk Inspector has been of great service to me, and I have been very much surprised at some of the tests of milk and cream taken from the cans as they arrive at the depot.

I have found milk (so-called) which would not pass as skimmed milk. It only contained 1 per cent. butter-fat, and was both skimmed and watered; several cases were watered and others were skimmed.

Now, this is not right in the shippers and constitutes a fraud, and a most serious offense, which should be punished.

Contracts have been lost and the dealers fined on account of having such so-called milk shipped to them, but they are themselves to blame in not testing each shipper's milk.

Now, concerning the bacteria and their growth in milk: Bacteria are among the smallest and simplest of all living things, and belong to the vegetable kingdom, and, like plants, require moisture, warmth and food to grow and can only be seen when magnified by the microscope. When favorable conditions prevail they multiply very rapidly, so that from a single germ 200 may be produced in three hours, 10,000 in six hours, 10,000,000 in nine hours, and 2,000,000,000 in eighteen hours.

As they increase in numbers they gather nourishment from the milk or

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other substances in which they develop, and, like other higher forms of life, transform what they take into their bodies into useless and poisonous products.

The milk becomes sour by the turning of its sugar into acid; but long before milk becomes sour to the taste it may contain enormous numbers of bacteria and has already become unwholesome and perhaps dangerous when employed for food, especially for infants and invalids.

Especial care should be taken that no person having or attending on persons with any infectious disease, such as typhoid or scarlet fever, diphtheria, consumption, etc., should have anything to do with the handling of milk or utensil, for they are likely to become infected, and cases have been traced to the contamination of milk by careless and ignorant dairymen.

In my experience in the past year I have taken many samples which have undergone bacteriological examination, and a case which comes under my notice especially I would mention where the milk was produced and handled in a dirty and careless manner was pronounced unwholesome and unfit for human consumption.

I gave him notice to that effect, and he went to work and cleaned, whitewashed and disinfected his barns, well groomed his cows and put a granitoid floor in his milk house and got a cooler and aerator, and the difference in his goods you would scarcely believe. They contained in the first sample organisms by the hundred thousand, too numerous to count, and in the second sample, after he had cleaned up, and improved his system and condition, after about eight hours from milking, it contained only about 15,000 organisms. So you see by careful handling milk will keep many hours longer and be much more wholesome than that which is produced in a filthy and careless manner.

The handling of dry feed, or sweeping so as to create dust, should not be permitted previous to milking, as that will cause a great increase in the bacteria in the milk.

Pasteurization has been given out as a cure for all the ills milk is heir to, and I would warn you that where it is carried out in a proper manner (and it must be done exactly right) it will be a great help; but it will not make milk which is already tainted or dirty, good; and if you heat to too high a temperature, or not high enough, or do not cool quickly enough to a proper low temperature, your labor will be in vain, for it will be sure to make the case worse.

Milk should never be allowed to stand in the sun.

I notice that sufficient care is not taken on the arrival of milk at St. Louis, and I have seen wagon-loads of the milk being handled from the car to the dairy without the least protection in the hottest days of summer and the coldest days of winter.

This is another source of deterioration, and is the result of thoughtlessness or carelessness, or both.

I would advise all dairymen to take a good dairy paper and read it and keep posted on what is going on in the dairy world, for you must remember that dairying is the highest point of agricultural science, and those who would be in the race must progress and be leaders in that line.

I will sum up in a few words so that you may take them away in your memories and be of service:

Cleanliness in all things.

Kindness and consideration not only to your animals, but especially to your employees, as that will aid considerably in the profit of your business.

Equipment. Have the latest and best utensils for your work, with the permanent buildings improved as soon as circumstances will allow.

Regularity and promptness in your business.

Keep accounts, and make a practice of testing your cows, both as to feed, quantity and quality of milk each will give, and remember that small leaks will sink large ships.

THE SWINE DEMAND.

It is indicative of a splendid demand for the highest class of swine that the most advanced and prominent breeders of high class registered swine have been unable thus far this season to supply the demand for such stock. The two leading breeders in this vicinity report that they have sold every young animal they can possibly spare and are able only to book for future farrowings. One firm searched the State to find a herd leader of sufficient attainmests that could be spared.

Conditions such as prevail at present indicate a most intelligent discernment of profit requirements and a live determinations to pursue in this branch of stock raising, such lines as are sure of success for the present as well as for the future. The vast difference in profits arising from raising the best registered stock is nowhere so evident as at the pig sty containing a few specimens of that type. There is width of body, length of hams, shoulders, depth of body; neatness of bone and finish that is wofully lacking in the mongrel or crossed breeds. The greatest difference, however, is apparent in the superior economic feeding qualities of the improved stock.

Added to this, they are the dollar winners. We have in mind a choice registered Poland-China sow purchased when quite young that farrowed before she was a year old a litter from which was raised four pigs. Three were males and were sold before six months old for sixty dollars and forty dollars was refused for the female,

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

G. I. Lytle

HIGH GRADE, STANDARD BRED JERSEYS

2006 S. GRAND AVE., LOS ANGELES

Advertising Column for Members

OF THE

JERSEY BREEDERS ASSOCIATION

OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

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Registered Jersey Bulls, all ages, from heavy milking dams.

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PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

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Pacific Golden Lad

AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.

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Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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A handsome golden fawn yearling son of SIGNORA BRUCE NO. 154547

Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address

GUY H. MILLER, Riverside, Cal.

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Jerseys with a record as milk and butter producers

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HIGH CLASS REGISTERED JERSEYS, POPULAR STRAINS

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Lemonita Herd

LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT BOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

J. A. CAMPBELL WE HAVE SOME GOOD ONES C. W. CAMPBELL

LA PALMA STOCK FARM

REGISTERED JERSEYS

One young bull for sale, ready for service; blood of Ida Marigold, sweepstakes over all breeds at Chicago World's Fair; Merry Maiden, sweepstakes all three tests same fair; Lily Garfield, champion 8-year-old in milk, same fair; grandson of Dot's Violet W, 1st prize Cal. State Fair; crossed with St. Lambert.

REGISTERED POLAND-CHINAS

Herd headed by the proved greatest sire ever in the State. Sired 10 winners at last State Fair. Nothing for sale.

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ORANGE CO., - CAL.

Stock received for breeding at fair rates. NO CHARGE UNLESS SUCCESSFULLY BRED. Correspondence solicited.

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PROPERTY OF L. L. BRADBURY, ESQ.

SONS OF **Imported Golden Marquis,** FOR SALE

ALSO

MELIA ANN'S LAD and a YOUNG TORMENTOR BULL

The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address

James Houston - Duarte, Cal.

making one hundred dollars profit in a year on a thirty-five dollar investment, with the original sow left to repeat the performance.

This, we presume, is rather exceptional, but it can be repeated with sufficiently good stock and has, in some cases, been exceeded. There is a great future for the swine interests if conducted on sufficiently high and proper lines. And, we will add, that future seems to be about here. California will be greatly the gainer when it arrives in full force. —W. C. C.

POSSIBLY TREE TOBACCO.

Editor Cultivator: Please tell me what ails my cow? She pants all the time, whether hot or cold; has been that way two days; does not drink much and her bowels are very loose. I lost twenty head of calves the same way last year. They last that way about a week and then die.—J. M. D., Rincon.

It is probable your cow has been eating of the plant (Nicotiana glauca) or "Tree Tobacco." This plant is killing cattle in the northern part of the State. Prof. E. J. Wickson writes of it as follows: "The plant was introduced from Mexico and is not common in California, especially along ditch banks and in moist places. It is undoubtedly poisonous to stock and the only reason that more cases have not occurred is that animals will seldom eat the plant unless driven to it by extreme hunger."

If there is any of this plant in the pastures wheret your cattle feed grub it out at once. It is poisonous. The poison is what kills the cattle.

TO MAKE TESTS.

Editor Cultivator:—Will you please state in your paper that Prof. Leroy Anderson of the California Polytechnic School will send upon request, a representative to make butter-fat tests, and these tests will be accepted by the Amercian Jersey Cattle Club as authenticated. The Southern Pacific has been requested by the Southern California Breeders' Association to furnish free transportation for this representative in making such tests, but has refused to make any concessions, so that the expense will be heavy. If, however, any Jersey breeder desires to have his tests conducted by an experiment station representative regardless of cost, the way is thus made open to him.

Very truly yours,
C. W. LEFFINGWELL,
Pres. S. C. J. B. A.

RECENT TRANSFERS OF JERSEYS.

The following are recent transfers of registered Jersey cattle as entered upon the books of the American Jersey Cattle Club to California purchasers:

Bulls.

Pedro's Golden Boy, 67520, G. Y. Coutts to H. H. Weddle, El Cajon.

Earl of Arlington, 55592, C. S. Burgess to Jas. N. Keith, Perris.

Duke of Holyoke, 59693, A. Workwan to Patrick Griffin, Los Angeles.

Prof. Bruce King, 67268, G. H. Miller to California Polytechnic School, San Luis Obispo.

Golden Hornblower, 67543, B. P. Patten to Ida Maulhardt, Downey.

Marigold's Ventura Pogis, 67544, C. W. Leffingwell Jr. to E. W. White, Santa Paula.

San Gabriel Duke, 67466, G. B. Renfro to Chas. Richardson, San Gabriel.

Golden Pomelo, 67163, Est. W. S. Ladd to E. Booth, Florin.

Marigold Angelus, 65817, W. Alen to C. H. McClintock, Santa Ana.

Cows.

Rosaires Rosette, 180622, Est. C. A Sweet to A. B. White, Los Angeles.

Sally of Oakhurst, 180743, L. L. Bradbury to N. S. Southmayd, Gardena.

Oonan's Trust, 181103, A. C. Davis to T. B. Purvine, Petaluma.

Golden King's Eloise, 168276, J. H. Walker to A. B. White, Los Angeles.

Massena's Joyful, 179751, A. C. Davis to T. B. Purvine, Petaluma.

CLEAN SEPARATOR.

Editor Cultivator: I see in each week's Cultivator good recipes you give the people. I have had trouble for two years with my cream. When April comes it begins to ferment in the cans. This year I bought a separator and after separating I put the cream in a tub of cool water, and thereafter I put in the cellar for three days until I churn. My cream ferments until it is like yeast. What can I do to stop this fermentation?—H. C., San Luis Obispo.

I think some obnoxious ferment has gotten into the place where you keep your cream, and in churning only twice a week the cream gets in very bad condition during the warm weather. I would recommend a thorough scrubbing and cleaning of every part of the cellar where the cream is kept; also take extra pains in washing and scalding all the utensils used.

If this does not stop the trouble get some good, clean buttermilk from a creamery or some one who does not have the same trouble and wash the separator parts and all cans with it, to bring about a change and produce a beneficial bacteria in place of the one causing the trouble.

It is possible there is something in the feed that is worse in April that would produce this result and if so, a change would corect the trouble.—C. H. S.

MEANS IMPROVED COWS.

The need of the present time is improved dairymen instead of improved cows, I believe, for until you have the right kind of a man to feed, milk, and take proper care of the cow you need look for no improvement in the condition of your pocketbook, for that is what most people judge their failure or success by.

And when I see a man who keeps but eight cows furnishing as much milk to the creamery as his neighbor does who milks twenty cows, I am forced to the conclusion that the difference is not in the cows, but in the men. The owner of the twenty cows has for the last ten years had a registered bull to head his herd, and the bull is all right, a good individual, and his stock in other hands gives much satisfaction, but the facts are the entire fault is in the man, for somehow he does not seem able to either feed, milk, or care for his cows in a manner that will make them a success.

To illustrate the difference between them in the manner in which they vary in taking care of dairy cows, I will relate the facts of a herd of twenty-five cows owned by a dairyman in Jefferson county. This man rented his farm to a tenant for three years, and the owner of the farm furnished the cows, he to receive one-half of the income. At the end of two years the tenant died, and the owner of the farm was forced to find another, and still, while he was a fairly good man, he was so far inferior to the previous tenant that at the end of the year they dissolved partnership, and at the present time the farm is rented to a third party. The latest tenant, however, is as far inferior to the second as the second is to the first. Now the same cows have been through three different caretakers, and while the first party succeeded in getting as high as 700 pounds of milk a day, the last party has been unable to get one-half of that amount. Now I know the difference is not in the cows, but simply in the men. The first understood the cows, and the others simply did not. Dairying is not a bed of roses by any means, but there is more profit to be made from a good dairy cow than from any other animal kept on the farm if she is handled intelligently. So I say you can never become too wise in the art of keeping cows.

We have been told many times how to discover the poor cows and to get rid of them as soon as possible, for, as some one has said, twelve good cows are better than twenty ordinary cows; but it is not as easy to keep the good cows. Often when you have them all right, as you suppose, there are plenty of diseases and accidents which will attack them. So I say you can not get too much wisdom to be a successful dairyman. It does not need but a few cases of garget or an attack of milk fever or an epidemic of abortion to put your best cows on the retired list. Yet most of these diseases can be prevented with proper care. I will make epidemic abortion an exception, for I have never found a preventative for this disease. You simply have to grin and bear it, but do not sell a good cow for beef because she has aborted. If you do not let the bull serve her for six months, the next time she calves the chances are she will have a calf all right and that after she has this calf she will be all right. I have never had a cow lose another calf; they seem to become immune, to use a medical term. So do not be too hasty in disposing of your cows if they have abortion. This disease will run its course. Whether there is a cure for milk fever is also a question. It is claimed there are several sure cures, but I believe that many of them are doubtful. I know that prevention is more sure in this case than it is in the case of abortion. So you see, there is plenty to learn about dairying, as well as there is about carpentering, blacksmithing or buttermaking, and it can not be learned in a day or in a week, either. It is easier to pick out a good cow than it is to properly feed or milk her after you have her.

For the busy farmers I would suggest this method of knowing what your cows are doing and which ones it will be the most profitable to keep. When your heifers have their first calves and the udder has gotten over being swollen, take an honest sample of her milk, put it in a test bottle, take it to the creamery and have the buttermaker test it for you. Do this with every heifer when she comes in and then by weighing the milk at home you can tell nearly what your heifer is capable of doing. The percentage of fat will not vary much in the same cow's milk from year to year, so what she tests as a heifer you may be sure she will not vary much when she becomes a cow. If she tests 3 or 4 or 5 per cent when she is two years old, she will not test much more or much less when she is ten, and if you know how many pounds of milk she gives a year, you will know very nearly how much butter she will make. Of course, if you have the time and want to get things more exact, you can test your cow anywhere from two to four times a day and average up the tests, but when one cow's milk varies from 2 per cent in the morning to 6 per cent at noon, and some other per cent at night, I believe you will get a more exact test if you will mix the two, three or four milkings and take a sample from this, than is done at the present time when the test is made at each milking. So, as there is plenty to learn about dairying, yet it will be well to spend some time improving the owner of the dairy cows as it is to improve the cows themselves.—C. A. Styles.

Where milk is handled in considerable quantities it will pay to use a regular aerator, of which there are several styles on the market, though nearly all of them work on the same principle and accomplish both aeration and cooling at the same time. The milk is made to flow slowly in a thin layer over a large cool surface. Some of these aerators are made with a corrugated surface, something like a washboard, and are so arranged that a stream of cold water is forced upward through the inside to keep the surface cool.

U. S. CREAM SEPARATORS

The above illustrates the 1904 Model U. S. Separators, Nos. 5, 6 and 7, alongside of our former style, and shows at a glance one of our latest and important improvements:

THE LOW DOWN MILK RECEIVING CAN.

Without in any way lessening the Strength or Durability of the machine, we have been able to shorten the frame and obtain a Low Can separator that is very easy to pour milk into, even by a short person. Write for catalogue which more fully describes this and the other improvements and advantages of the U. S.

Remember that in buying the U. S. you get the separator that

HOLDS WORLD'S RECORD FOR CLEAN SKIMMING

with average test for 50 consecutive runs of .0138.

We have the following transfer points: Portland, Me., Sherbrooke and Montreal, Que., Hamilton, Ont., La Crosse, Wis., Minneapolis, Minn., Chicago, Ill., Sioux City, Ia., Omaha, Neb., Kansas City, Mo. Address all letters to

Vermont Farm Machine Co., Bellows Falls, Vt.

365

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

SOME MORE LITTLE THINGS.

Little economics, little comforts, little savings and little plannings. There are so many little trifles in the poultry business that really give big returns.

In my housekeeping, I like to plan little dishes, maybe little surprises, and the same in the poultry business. I know the hens may be considered as egg machines, but to me they are all my little friends. The turkeys too with their shy inquisitive little ways, and those ducks with their wonderful activity and great curiosity, are all my interesting little pets.

* * *

Little comforts for the ducks.—Indian Runner ducks do not require a pond. A kettle of water is all they need for they live and breed and do well with nothing but water for drinking. However, I decided to make a little pool two and a half feet square for them. I had a few spare bricks, so I made it of brick and cemented it. The ducks enjoyed it immensely, but when the hot beams of old Sol warmed it up, that little pond by the second day had a very bad odor and I found it had to be emptied daily to prevent it becoming foul.

This was just a little too much work for me so I just filled up the little pool with earth and decided to try a better plan.

* * *

The better plan proved successful. I took a barrel, an empty cement barrel, knocked the bottom out of it, had a hole dug in the ground, sank the barrel in it. I had another barrel sawed in two, the end with the bung hole was only eight or ten inches deep. This was placed on top of the other barrel, an old broom handle being used for a bung and this upper part of the barrel was and is the duck's bathing pool. It is easily cleaned by removing the bung, rinsing with clean water, by turning on the hose, and there is no odor.

The ducks enjoy their bath; they keep themselves clean and it is very little trouble. The water soaks away through the lower barrel. This is one of the little comforts that pays for itself.

* * *

Little troughs are among my little economies. I take an empty five-gallon oil can, cut it exactly in four lengthwise, with a can-opener or with tin shears. I then nail or tack a piece of board six inches long and about three inches wide at each end on the outside and I have four nice clean troughs that will hold either food or water.

Another little economy is making a little hopper out of a lard pail. Cut half way round the pail an inch and a quarter from the bottom, bend the side that is cut in, to about a quarter of an inch from the back, you can keep the lid on and use the hopper for beef scraps, or charcoal or chick feed. The chicks cannot get into it and the bottom forms a little saucer an inch and a quarter deep. This makes a very convenient and cheap feeding trough. One year I used tin pie plates for feed, but this hopper does better.

* * *

Another little economy is making drinking fountains. Of course these can be easily purchased at the poultry supply houses, but it is convenient to be able to make one in five minutes oneself, when needful. Take an empty tomato can, melt off the end that has been opened, make a nail hole with a large nail about half an inch from the edge, then fill the can with water, put a saucer over it and quickly invert the can, holding the saucer firmly, the water will leak into the saucer up as high as the nail hole, and will keep there until the chicks have emptied the can. It is very convenient to have these little drinking fountains for milk as well as water, as they can be easily scalded. They have one fault; the old turkey hen tips them over too easily, she lifts her foot slowly and deliberately and deposits it in the saucer, and over goes the can. So for her I have a Eureka fountain; it is a new invention of Mr. S. H. Church's. It is galvanized and will not rust; is inexpensive and can be bought at 237 Poe street, Los Angeles, or at Germain's seed store. It is hinged to the saucer, so cannot be upset; can be hung on a wall or stand on the ground.

* * *

Little savings.—I wonder how many little lives are being crushed out this spring by over crowding? The natural instinct of a chicken makes it huddle, it wants to push under its mother, and will continue to do so until the mother hen deserts it. How about the little orphans in a brooder? Here is where some of my trials and tribulations come in. It was time to move them out of the brooders. I had good hatches; had raised nearly every chick and they were big and healthy. I moved about four hundred of them into four good, large houses, each house six feet by ten feet, well ventilated, but warm. I had clean straw in the houses, also plenty of perches. The first night I went the rounds and spread them all around on the straw. The next morning my daughter reported a dozen dead chicks, adding that she feared they were crowding. The following night and for several nights we sallied forth after supper, in each house we found what looked like a snow drift piled up in one or in two corners, those white beauties crowding. We patiently spread them out, put them on the perches, then came back again and again, the little perversities were determined to crowd, and every night some were crushed flat to death, and the others looked as if they had been through a sweat bath. They sweat off at night all they had gained during the day. They were perverse, but I was determined to stop the crowding, for it meant failure, if something was not done, and done quickly. So I bought a big bundle of six foot laths, made little platforms three inches high, by nailing the laths on stringers just the width of a lath apart, so that, if they crowded, their feet would go through and they would be very uncomfortable. I took all the straw away and left only these platforms and the perches above them. The first night, like naughty children, they did not want to go into the house at all, but we put them all in and they roosted happily ever after, either on the laths or on the perches and I had no more trouble with their crowding, I might have saved fifty little lives if I had tried the lath platforms earlier.

* * *

Since that time I have never put as many as a hundred chicks into one house. I have used smaller colony houses for only twenty-five or thirty chicks.

Small colony houses can be made at a cost of about fifty cents each by making them oneself.

* * *

ANSWERS TO QUESTIONS.

A new disease.—Dear Editor:—I would like to have some information as to a new disease that has just come in our flock of hens. The hens seem perfectly well, have a full crop and all at once we find them lying on the ground, comb perfectly red and healthy looking; they seem to be shaking all over, and panting and straining as though laying and in an hour or two they die. We cut one open; her gizzard had scarcely any grit in it, heart was very soft, liver a good color, she was full of eggs. Some hens lay while sick, before dying.—Mrs. S. L., Colton, Cal.

Ans.—The symptoms you describe are those of poisoning. I had several hens act like that in Oklahoma, from being stung by tarantulas or centipedes. I gave them two drops of aconite in two big spoons of milk and saved them. Yours may be poisoned by blood poisoning from not having grit enough to grind their food. Give them grit and charcoal and be very careful about poison. Have you or your neighbors used poison for squirrels, or have you fumigated your trees? The cyanide used in fumigating is deadly poison and I have known of several hens dying from picking up either the dead scales or some particles of the cyanide.

Warm milk and lard is the best remedy for poison. One of my dogs, and several of my hens were poisoned and I saved them with warm milk and lard, about half a teacup poured down their throats through a funnel.

TAKE NOTICE

When one gets ten to twelve dozens of eggs per day, as I have been getting for about two months past, it counts, but they all go. Just up with orders. Have sold nearly 7000 eggs for hatching purposes, 90% of them W. Minorcas; balance White Rocks and W. Wyandottes. Will continue to fill orders. If eggs from my stock are wanted write to

S. W. MORGAN, SUNNYSIDE, CAL.

MATURED

Standard Bred

Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
S. C. W. Leghorns (Emery Strain)

Only Birds That Have

MOULTED.

are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.

CAPTAIN MITCHELL
SANTA BARBARA, CAL.

Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

CARRINGTON'S WHITE LEGHORNS

Eggs for hatching from PRIZE WINNING and utility bred stock, by the sitting, 100 or 1000, also breeding stock of all ages for sale. Write for folder giving prize record to

C. B. Carrington Hayward, Cal

FREE! FREE!

The 1904 Catalogue B

Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address

Must Hatch Incubator Co., PETALUMA CAL.

Fair Oaks Duck Farm

Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.

James Hague, Proprietor

350 College St., Oakland, Cal.

Eggs for Hatching

Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.

LOUIS S. FLETCHER, ANAHEIM. CAL.

READY FOR BUSINESS

Lice and Mites are always ready for business, and for ridding the roosts, houses and old fowls of these great life destroyers, you must use

Lee's Lice Killer

and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is

Devil's Dust with D. to L. Ointment

HENRY ALBERS 315 S. MAIN ST., LOS ANGELES, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks

Trophy Winners at Late Los Angeles Show

In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.

My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.

SEND FOR NEW ILLUSTRATED CIRCULAR GIVING SHOW RECORD AND PRICES

G. I. Lytle, CITY ADDRESS 2006 SOUTH GRAND AVENUE PHONE—HOME 6435 **Los Angeles, Cal.**

RANCH: 2½ Miles South of the University Station, on Vermont Ave. Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena All Stock is Kept at Ranch Phone: Sunset, State 82

White and Brown Leghorns

Have won more prizes at the leading shows than all competitors combined. At the State Fair, San Francisco, and Seattle shows, the past season, they have demonstrated their superiority by winning the lion's share of the First Prizes. Not only this, but at the great Chicago Show in January we won five out of a possible six prizes, creating a sensation among Eastern breeders. For the finest stock on the Pacific Coast, write us. Eggs, either variety, $2.00 per 15; $5 00 per 45; shipped safely to go any distance. Incubator lots at reduced rates. SEND FOR CIRCULAR.

LARGE BIRDS AND LAYERS OF LARGE EGGS

Williams Bros., Expert Leghorn Specialists, Box A. FRUITVALE, CAL.

POULTRY VERMIN.

The greatest enemy of poultry is vermin. The next greatest enemy is the crack in the hen house, where draughts deal their deadly dose in the form of roup and other like diseases. Both these disastrous conditions are within the power of the poultryman and woman to overcome. The first requires vigilance, the second may be remedied by a few hours of labor. On the subject of vermin and its treatment the Baltimore Sun speaks as follows: "The novice in the poultry business during these charming days thinks that perfect success will attend his every effort. The start has been a good one, and if all conditions that prevailed at the commencement are maintained success should crown his efforts. The great trouble with too many people who engage in poultry raising is that they lose their enthusiasm as the mercury goes up. When the hot days come, they slacken in their attention, neglect many little details, which results in breeding trouble and vermin instead of chickens.

It is during the hot months that every little thing necessary to poultry must be religiously observed. Large flocks must be kept in quarters conspicuous for cleanliness. The advice given by poultry papers to "clean out the henhouse once a week" would not answer. Every-day cleaning should be the method. Whether the floor of the henhouse is earth or boards, the accumulation of droppings for one week will impregnate the floor and cause unpleasant odors. Cleaned out every morning and followed with the scattering of air-slacked lime, dry road dust, the poultry house may be kept in clean, sweet condition. Vermin, injurious to poultry, will breed in poultry droppings.

The body lice and the nocturnal mites are two pests that poultry raisers should prevent. A dust bath is the hen's natural bath for freeing herself of the body louse. Fine dust is death to these pests. The farmer who complains that his hens will not dust in any place except in his specially prepared beds for onions or lettuce needs the object lesson the hens give him. He may conclude they will be satisfied with a small space spaded up and lift in a cloddy condition, but they know better. Therefore let the farmer spade up a space in the chicken yard or wherever it is desirable to have them dust and make it onion-bed fine with the rake. It is a good plan to have the dust bath under a shed so it can be available in all kinds of weather.

The mites cannot be reached by the dust bath, for when the hens take their bath the mites are not infesting their bodies. These little pests come out at night, from the cracks and crevices of the roosts and other hiding places and prey upon the flock. They are about the same color as the skin of the fowls when they first come out at night, but when they are filled with blood they suck from the fowls they are black-red. As soon as there is a sign of daylight they leave the fowls and resort to their hiding places.

To destroy mites it is necessary to use whitewash strongly impregnated with carbolic acid. See that every crack or crevise is filled with the solution. Expert poultrymen build their houses so that none of the inside fixtures are permanent. The roosts are made all on one level, about 2 feet high from the floor, and the nest boxes are individual ones. All these are taken out about every two weeks during the hot summer weather and gone over with a paint brush and coal oil in order to destroy the mites and nits.

As soon as the hens are through sitting all the old nest material is burned and the nest boxes are either coal-oiled or fumigated with burning sulphur. All these precautions are necessary to keep down the vermin.

Hens that are sitting should have access to a dust bath. Having the portion of the nest material of tobacco stems will aid in checking the lice trouble. It is also said that sprigs of growing tansy or red cedar are obnoxious to hen lice. It is a good plan to take a common dredge box (such as women use in bread making) and sprinkle tobacco dust thoroughly hrough the feathers of the sitters when they are first put on the nest of eggs.

At times, when every known remedy and precaution has been utilized, there will be vermin on the setting hens and, of course, the young chicks will become infested. It requires the experience of the experts to detect the lice on very young chicks. The novice will declare there is no lice on his chicks. When the expert picks them up and parts the down on their heads and necks and shows him the lice the same color as the down, he is then satisfied all lessons are not yet learned. The young chicks that are infested should have their heads smeared with sweet oil impregnated with coal oil. Use four tablespoonfuls of sweet oil and half a tablespoonful of coal oil. Take a little on your finger and gently rub it into the down on the chick's head and a very little way on the neck. Do this only late in the evening so the warmth of the hen's body will do its part in distribution of the mixture. Rub some on the hen under the wings, over the vent and on the neck and shoulders (between the wings).

There are many commercial preparations on the market for the destruction of chicken lice and mites. Preventive remedies are the cheapest and best, and where strict cleanliness is observed there will be no danger of serious losses, for the pest trouble can readily be prevented by such means and the simple remedies, within the reach of every farmer, as above advised.

Three of Uncle Sam's war vessels put in an appearance at the entrance of San Diego harbor last week. They are the United States monitor Wyoming, Capt. Cotman, and the torpedo boat destroyers Preble and Paul Jones.

Owing to the fact that the streams in Northern California are so well stocked with fish an effort will be made to open the fishing season a month earlier than usual.

TURKEY RAISING.

In raising turkeys it is very important to get good, strong, vigorous breeding stock, selecting the females from the earliest hatches and being sure to get those that have always been free from disease and whose ancestors are the same. If you start with diseased stock you may be sure that the same weaknesses will show in the young stock afterward. Then in selecting the males be sure and get those that are healthy in every way.

I do not like one of those big overgrown turkeys, but select one of medium size and well rounded body, and big through the breast, which means good, strong vital organs.

The mistake that many farmers make in selecting stock is to have stock of late hatching, and, being a little greedy for money, are almost sure to sell off all the largest and best birds, keeping the late hatches and inferior stock for breeding the coming season, which makes their stock weak all the way through.

Now, assuming that we have good, strong stock to begin with, we must see to it that we do not get them too fat through the winter season. We would rather have them in rather a thin condition in the spring, commencing to fatten them up a little about the first of March so as to get them laying about the first of April or the last days of March.

Accumulating the eggs at this season of the year is often a concern to most of us, for if the weather is pleasant the turkeys will be rather shy and liable to wander. To obviate this difficulty I wired off my small barnyard, keeping them in every morning until they had deposited their eggs in the barrel nests which I have arranged along the side in the interior of the yard. After they have commenced laying in the barrel nests it is not necessary to yard them, for they will always take to the same nest.

Now, in regard to hatching, no matter how you are going to do it, whether by hens or machine, be sure to make a wholesale job of it. The practice that many have of setting the hen as soon as they have a few eggs accumulated and doing the same thing again three or four days later is a great mistake, for by this plan you have young poults of all ages and sizes, which makes it necessary to have two or three varieties of feed around, and it also means that the large ones will trample on and rob the smaller ones; but the worst feature of all is that when you go to market in the fall you will have a very inferior lot of uneven turkeys to sell, and will probably have to take from 1 to 3 cents a pound less than you would if you had accumulated and saved up the eggs as fast as they were laid.

I consider the turkey hens' time too valuable to keep them setting on eggs at this season of the year and consequently my hatching is done with an incubator, and when the poults are hatched they are given to turkey hens. I consider this the only profitable way to rear turkeys.

I always get to them very early in the morning with some food. This serves to keep them from rambling as they otherwise would, but after the

WHITE PLYMOUTH ROCK
Egg at $1.50 per 15.
Circular Free.
CHAS. T. YOUNGKEN
151 E. Avenue 55 Los Angeles, Cal

Reduction Sale
Till June 1st all eggs $1.25 from Buff Cochins, S. G. Dorkings or Golden Laced Polish. A trio of Polish (10 months old) for $6.00. Cochin pair and trios, also cockerels. Need room.
HARRY McINTIRE,
27TH AND D STREETS SAN DIEGO, CAL.

NATURAL HEN Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16-page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

The West Coast Stock Food Co.
Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
WEST COAST STOCK FOOD CO.,
PASADENA, CAL.

Golden Laced Wyandottes
Eggs of Ideal Strain. 15 Eggs, $1.00
Mrs. Frank Wood, R.F.D.2, Compton, Cal.

Eggs for Hatching
—FROM—
PURE BRED WHITE LEGHORNS
$1.00 per 13—$4.00 per 100
JACOB KREGER
Route 1 - Anaheim, Cal.

Black MINORCAS White
BIG WHITE EGGS
80 to 90 per cent fertile; 75 per cent guaranteed. White Minorcas $1.50 per 14, Black Minorcas $1.00 per 14; $6.00 per 100.
CHICKS FOR SALE AT 15 CENTS EACH
MRS. F. T. HUNGERFORD, "Willard" Poultry Yards
202 S. Grand Ave. Home Phone 3534
Los Angeles, Cal.

Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
757 N. LAKE AVE., PASADENA, CAL.

EGGS FOR HATCHING.
From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
T. E. Mills - Lordsburg, Cal.

There May be Other Chick Feeds, but People Do Not Want Them
I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.
The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.
Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.
GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

dew disappears and the weather warms up a little they should be taken for a supply of water, and it should be kept near them in such a way that they cannot get into it and get wet. I use a little automatic fountain made of galvanized iron. After they are given their liberty be sure to see that the supply of water never runs short. It will aid you in getting them home at night; and right alongside of the water be sure to have plenty of good, fine, sharp grit and a dish of charcoal. Be sure that these articles never run short, for the turkeys will not be healthy without them.

After they are from six to eight weeks old they are ready to take to some kind of a perch. They will generally do this in their own way, and after they get so they take to their perch nightly they are all driven to what I call the "turkey tree." I like to have them all together at night, for it is so much easier to protect them from their nocturnal enemies.

One disease that causes a great deal of loss in turkey raising is called black head; some call it cholera. It usually affects young turkeys from 10 to 12 weeks old. It is an infection of the liver and is usually inherited from the parent stock and is caused largely by close inbreeding. All dead birds should be burned or buried deeply. Birds having this disease will never be free from it, but will transmit it to their young. Wet, stormy weather always aggravates it.

I am fully aware that there is a deep-rooted prejudice against raising turkeys, many claiming that they are very destructive to growing crops. My experience has shown that they are the least destructive of all farm poultry. Take, for instance, a flock of about 100 or more turkeys foraging a field of any kind of grain or grass, and I defy any one to follow them and show any harm they have done. We all have to acknowledge that they have done much good toward ridding the field of grasshoppers and many other insect pests.—C. E. Matteson, before Wisconsin Round-Up Institute.

A RAPIDLY WORKING INCUBATOR.

In these days of general use of incubators it seems hardly possible that the following, from Commercial Poultry, can be a narrative of an actual occurrence:

George O. Brown, the veteran poultry judge, owns an incubator. He also had a colored gentleman working about his place. Brother Brown keeps his incubator in a room in his house and the colored man often saw him carrying eggs to the house and frequently saw him carrying newly hatched chicks from the house to the poultry yard, where the brooders were in use.

One day the colored gentleman remarked these facts and asked where the chickens were hatched. It then developed that the dusky gentleman had never seen an incubator; he had never even heard of one. Mr. Brown offered to show his and conducted his servant to the room where the incubator full of freshly hatched chicks was located. The darky could not be persuaded to enter the room, but stood in openmouthed wonder outside the door.

An hour or two later the colored man went to Mr. Brown and the following conversation ensued:

"Sar, Mistah Brown, I'se goin' to leave you."

"What's the matter now, Sam?"

"Oh, I'se jes' projeckin' on leavin' you all."

"Don't I use you well?"

"Couldn't say anything again you all on that 'count."

"Don't you get enough to eat?"

"Eaten's all right."

"Then what's the matter with staying with me?"

It's jes' like this, Mas Brown. I been a seein' you-all carryin' eggs into de house an' I been seein' you-all carryin' chickens outen de house. Now, when I been seein' a man carryin' eggs into de house in de evenin' an' carryin' chickens out in de mawnin', an' see inside de house a contraption as hatches dem cnicken endurin' de night, I hasn't much mo' use for dat man. You's all right, Mas Brown, but you-all on too good terms wid de old man down below to suit me."

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles.

Will some one please tell me through the "Cultivator" what causes pinkeye in calves and how to cure it.—G. E. Lewis, Chatsworth.

The disease is epidemic. Bathe the eyes with solution boracic acid 1 ounce, to pint of water.

* * *

WEAK DIGESTION.

Editor Cultivator:—Having seen many interesting items in your paper, and I venture to ask you a question in regard to a sick cow which I have. She is young and fresh in milk and has fallen off in flesh in last 3 months but has not diminished in her milk flow. She has no cough, but seems dumpish with not much of an appetite. She has good alfalfa pasture and alfalfa hay. Can you tell me what I can do for her.—W. H. Gibney, Crows Landing.

Give cow nux vomica tinc. and tinc. gentien, teaspoonful of each mixed, twice a day.

* * *

TUBERCULOSIS SYMPTOMS.

Editor Cutivator:—I have some shoats that cough. They have coughed for some time. What can I do?—T. O. S.

You better have shoats examined. They show tuberculosis symptoms.

* * *

POLL EVIL.

Editor Cultivator:—I have a horse which received a bump on the back of the head which brought on poll evil. Please advise me what to do to cure the horse.—O. T. S., Calpella.

Open up the bump on head well and make solution sulp. zinc 2 ounces to pint and apply. You better have vet. do the cutting.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

Is a good book, well worth the subscription price. Every person handling chickens will get valuable pointers by reading this book, which tells in a short, concise, practical manner the best method of raising and marketing chickens and eggs. Sent postpaid to any address for $1.25.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

HATCH IN SEASON—NOW
Selected Eggs, Guaranteed First-Class, $1.50 per Setting of 13
S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS
1½ Miles East of Glendale
Eleanore Poultry Ranch
P. O. Address, Garvanza
Incubator Chicks Hatched to Order

NO MORE LICE
after using
PRUSSIAN LICE KILLER

NO SICK CHICKS
when you feed
CHAMBERLAIN'S CHICK FEED

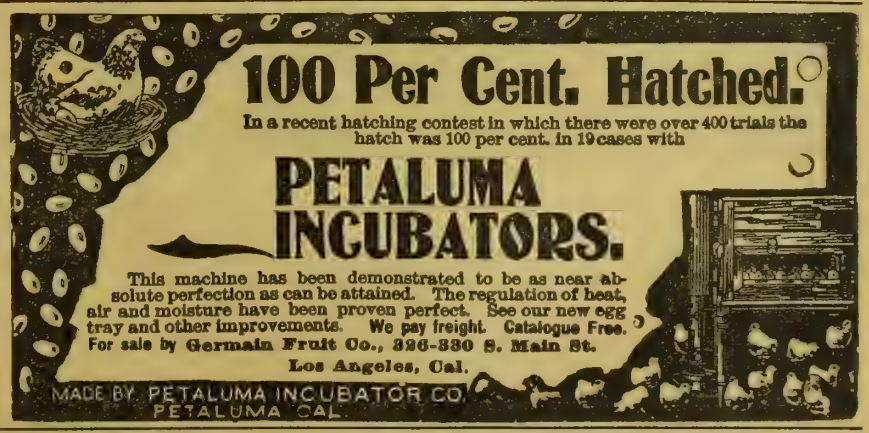
PLENTY OF EGGS
by feeding
DARLING'S BEEF SCRAPS

DISTRIBUTING AGENTS
GERMAIN SEED CO. 326-330 S. MAIN ST. LOS ANGELES

Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY


100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO. PETALUMA CAL.

Emery's Pure Meat Meal
Don't believe all we say, but just enough to buy our Poultry Foods
Ask your nearest dealer for them and take no imitations.
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

SAVE THE CHICKS
Peerless Chick Feed is the best balanced ration of pure, clean seeds, grains, meat meal, charcoal and grit known to the poultry breeders. The benefit derived by its use is marvelous, and is endorsed by all who have tried it. Prices: 100-lb. bag, $4.00; 50-lb. bag, $2.00; 24-lb. bag, $1.00; 5-lb. package, 25c.
HENRY ALBERS, 31 S. Main St., Los Angeles

$25

Given away. We will give $10 in GOLD for the best picture of Little Chicks that are being fed on COULSON'S CHICK FOOD. We will give $5 in GOLD for the best picture of Hens that are fed on COULSON'S EGG FOOD. $1 each for the next 5 best pictures of poultry fed on Coulson's Food. Address Advertising Department

$25

A. R. Coulson Co., Petlum, Cl.

MILLIONS OF LITTLE CHICKS ARE RAISED ON COULSON'S CHICK FOOD

In January we advertised that we would give $25 as prizes for the best pictures of chicks raised on Coulson's Chick Food and that we would award these prizes about the first of May.

The first prize was awarded to John McDonald at Marshalls, Marin County, California, for largest chicks 10 weeks old weighing from two and one-half to three pounds apiece. Mr. McDonald has a big poultry farm and buys Coulson's Egg Food and Coulson's Chick Food by the carload, 300 sacks at a time.

The second prize was awarded to A. J. Bloom who has practically the largest poultry farm in the West with over 10,000 fowls on the place. Mr. Bloom purchases Coulson's Egg Food and Coulson's Chick Food by the 15 ton carload, 350 sacks at a time. Mr. Bloom has splendid success raising Chicks on Coulson's Food.

The third prize for best picture of hens fed on Coulson's Egg Food was awarded to H. C. Scrutton, Petaluma, $5.00 in gold. Mr. Scrutton has a model up-to-date poultry farm stocked with 1500 pure bred S. C. White Leghorn hens which are fed on Coulson's Balanced ration Egg Food and eggs are sold for hatching. Mr. Scrutton also raised this year several thousand chicks on Coulson's Chick Food, some White Minorcas and some White Leghorns. Mr. Scrutton sold roosters 8 weeks old for $4.25 a dozen. All chicks are fed on Coulson's Chick Food exclusively. Sometimes it is fed dry and sometimes it is wet with milk or water and put in a long pan and baked in the oven for about 15 minutes. Then it is crumbled up and fed to the chicks.

The fourth prize, $1.00 to William Bassett, Fallon, Cal. Mr. Bassett raised over 5,000 chicks this year on Coulson's Chick Food. These chicks consumed six tons of Coulson's Chick Food. Mr. Bassett sold 500 young roosters, 6 weeks old for $3.75 per dozen. (A feed that will make chicks develop and grow so fast that you can pick out the roosters and pullets at the age of 6 weeks, must be first-class feed.) It is wonderful how Coulson's Chick Food makes chicks grow. Mr. Bassett also has a couple thousand hens which are fed on Coulson's Egg Food.

The fifth prize, $1, was awarded to A. De Rezendes, Tomales, for colony of pullets three months old raised on Coulson's Chick Food. Mr. Rezendes has a large poultry farm with about 10,000 fowls on the place and raises and sells pullets to the other large poultry farms. Mr. Rezendes buys Coulson's Egg Food and Coulson's Chick Food by the carload, 300 sacks at a time. Mr. Rezendes says that by feeding the laying hens on Coulson's Egg Food they lay twice as many eggs as other years when they were fed on common feed.

If you are in the poultry business for profit, you want to surely use Coulson's foods. Most all up-to-date feed stores in California sell it, or if not, send to factory.

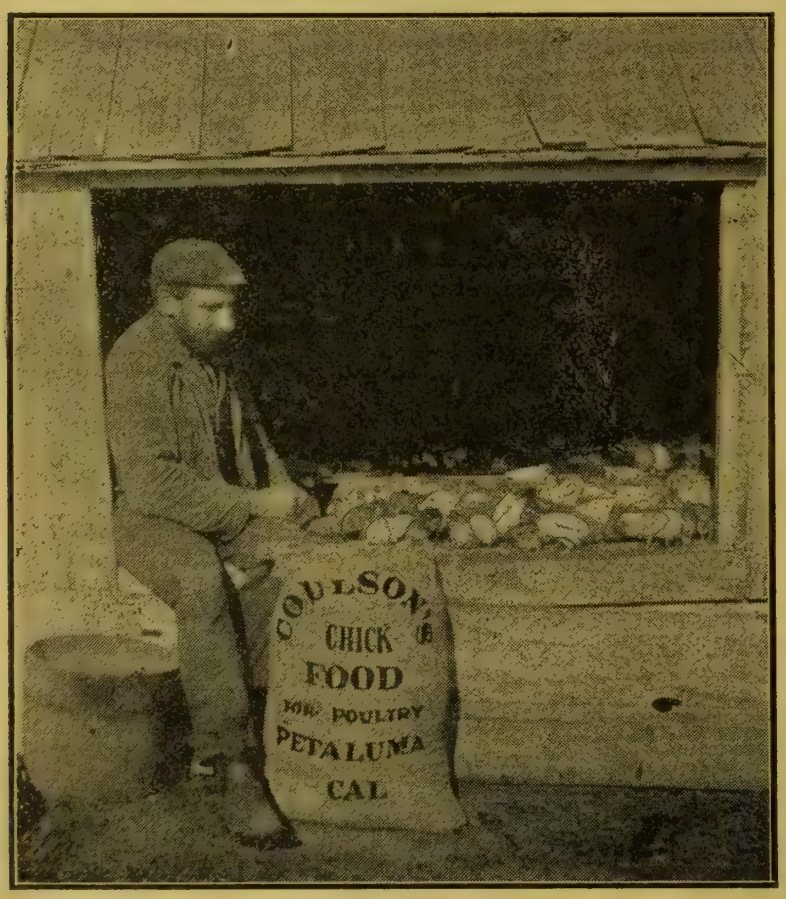
Price of Coulson's Egg Food, $1.65 a sack.

Price of Coulson's Chick Food, $2.20 a sack.

These are factory prices. Prices in other towns will be higher according to freight.

AWARDED THIRD PRIZE, $5.00 IN GOLD

The attendant gathering eggs on H. C. Scrutton's poultry farm. Results from feeding Coulson's Balanced Ration Egg Feed. Healthy hens and plenty of eggs. Note the nice, healthy appearance of the hens. Coulson's Egg Food is fed exclusively here.



A Window that Slides Open in the Side of Brooder House; 600 Little Chicks in the House. Mr. Bassett, Jr., Feeding them Coulson's Chick Food. Note how busy they are Eating it; Some of them go right into the sack and help themselves.

Mr. Bassett sold 600 roosters 6 weeks old that were raised on Coulson's Chick Food for $3.75 per dozen. It is wonderful how Coulson's Chick Food makes chicks grow.

A colony of young pullets on De Rezendes place, 3 months old, raised on Coulson's Chick Food. Mr. Rezendes has the reputation of being able to raise more chicks to maturity than any one else in that big chicken county. Mr. Rezendes attributes his success to good care and management and COULSON'S CHICK FOOD.

Mr. Rezendes has, counting large and small, about 10,000 chickens on his place and they are all fed Coulson's prepared foods for Mr. Rezendes buys Coulson's food by the carload.

Send for catalog, samples, etc.

A. R. Coulson Co.

Petaluma, California

FIRST PRIZE HEN at all Coast Shows

A. R. Coulson Co., Petaluma, Cal. San Bernardino, Cal, Feb. 10, 1904.

Gentleman:—I have been in the business of scientifically breedng and feeding poultry for the past 21 years and have given your egg food a good test and can recommend it to poultry men to be all that is claimed for it.

Yours truly, S. M. BUTLER.

Note.—Mr. S. M. Butler is the gentleman whose Arrowhead strain of Barred and White Rocks have taken more first premiums than any other strain on the Pacific Coast.

General Agriculture

THE GOOD ROADS MOVEMENT.

That a general awakening of public sentiment in favor of better streets in our California cities, and better roads in the State, at large, is imminent, appears from the appeals the automobilists and farmers are making to the county authorities in all portions of this commonwealth.

On Tuesday, of this week, a monster parade of automobiles was made in Los Angeles, in which 200 machines were in line. Everyone held a banner on which was inscribed, "For better streets and good roads."

There is certainly a pressing demand for general concentration of energy along the line of good road making. In no branch of our public industry are we so lax as in scientific road building.

In nearly every other branch of civilization wonderful progress has been made, and especially during the last fifty years, while advancement in the art of road making has remained almost at a standstill.

That the art of road making is susceptible of nearly as great improvement as most other lines of industry has finally been demonstrated by the introduction of oil on the roads, whereby very superior roads can be constructed at a fraction of the cost under the old-time methods in such general use today.

The agitation and investigation of the road question in the United States Department of Agriculture during the past ten years has brought out the fact that the people of this country are needlessly losing over $600,000,000 each year because of our bad roads, making this the most important economical question before this country at the present time. The advent of the bicycle, followed by the automobile and the free rural delivery of mails, has greatly stimulated the agitation of this question.

The fact that our postoffice officials claim that mail could be delivered to nearly every home in this country without cost to the national treasury if we had good roads has also been a powerful stimulant toward the energetic and earnest study of the road problem and is an instance of its far-reaching scope and importance.

Our state authorities can apply their energies to no better purpose, for the next few years, than in systematic road making. It should be the object to create a system which will be economical as possible, commensurate with perfect city and county roads. As at present constructed there is too much loss of material. The ground is not properly prepared for the reception of the oil, nor is the oil properly distributed to get the best results. All these conditions must be studied, and the best common sense system agreed on before we can derive the benefit we should from the money we are to expend.

DANISH CABBAGE IN COLORADO.

A carlot of Danish cabbage reached Denver recently. This is claimed to be the first imported cabbage ever sent so far west.

IRRIGATION FROM THE COLORADO.

The National Irrigation Association is doing a noble work in advancing the cause of reclaiming the arid sections of the country. And the slogan of the Association is ownership of the water by the water user. At present William E. Smythe, "Father" of the Association is making a campaign in favor of government ownership of the waters of the Colorado—or rather government control with the ownership finally vested in the people when lands are covered by the water.

Mass meetings have been held at Imperial, Los Angeles and other places at which enthusiastic support has been given to the movement. At these meetings the one point most particularly enforced was the public ownership of the waters now covering the great Imperial valley. This water is now held by the Imperial Development Company, which company it is claimed, is not averse to disposal of its claims and improvements to the government. At these meetings, resolutions, of which the following are the gist, were passed:

First—That we heartily endorse the policy of national irrigation as embodied in the Act approved June 17, 1902, and that we agree with the President of the United States when he declares that this act is "One of the great steps not only in the progress of the United States, but of all mankind."

Second—We are convinced that the only instrumentality big enough to deal with the problems of the mighty Colorado is the United States of America.

Third—We deeply appreciate the splendid faith and daring enterprise of those who risked their capital, their reputation, and years of labor, in inaugurating the reclamation of public lands in the Imperial valley, and demonstrating the economic possibilities of that wonderful region. But it is evident to us that the acquisition of the existing system by the Government, to be operated as an integral part of the the great national works to be created by the Reclamation Service, is not only eminently desirable, but practically essential to the success of the grand undertaking. In acquiring such property the Government should, and doubtless will, treat the present owners with scrupulous fairness, and permit them to enjoy the just reward of their labors and investment.

Fourth—The paramount use of the Colorado river is for irrigation rather than for navigation. This fact should be recognized by the governments of the sister republics and, in adjustment of international rights.

Speaking of President Roosevelt and his attitude to National irrigation William E. Smythe recently said:

"The President of the United States is a busy man. But he is not too busy to listen to the troubles of his people, especially when they are the men of the Western frontier. He was not too busy to hear my story, not too busy to spread out on his desk a map of the Imperial Valley, not too busy to discuss the matter with the keenest interest. And he instantly initiated an investigation of the proposition, out of which has come all the progress we have thus far made. I am not a member of his political party. I belong to the other side, but I am very happy to be able to say that, so far as irrigation is concerned, the President of the United States is 'all wool and a yard wide.'"

I've a fervid, wanton longing for a spot
I know out yonder,
'Tis a little sun-kissed picture that I paint
When world-oppressed.
—Mabel Porter Pitts in Sunset.

The Los Angeles Herald says that it is gratifying to learn that there is a large increase this year in the acreage devoted to the fig industry of the State, since it has been clearly demonstrated that Smyrna figs can be readily and profitably produced in many localities, which are equal in every respect to the best imported from Smyrna. In the Turlock and Modesto irrigation districts, for example, it is reported that 500 acres of the true Smyrna fig trees have been planted and a packing-house will soon be constructed for they begin to bear even in the second year, and producers will thus become familiar with the process of curing the figs at the start. It is also reported by nurserymen that many small orchards, planted as an experiment, have been set out in Southern California with a view to going into the fig business if the orange industry is not speedily rescued from the conditions which now render it so unsatisfactory.

The San Francisco Chronicle says, at the recent meeting of the Santa Clara County Fruit Exchange President Hersey stated that a great deal too much poorly cured fruit was delivered to the exchange. There was no profit whatever to the grower in this, for he was charged with the cost of putting it in good condition when that was possible and when that was not possible it was sold for what could be got for it to brandy makers or anybody else. It was never marketed as exchange fruit. It is necessary to say that this is a very common failing with members of co-operative associations. Hoping to sell water for fruit they do not properly cure, and they mix in poor stuff which they would not dare to offer to the regular trade. They rely on the leniency of their elected manager to accept the stuff. The "honest farmer" should not do such things.

The Stockton Independent says that the large crop of new hay in sight has weakened the hay market some of late, but there appears to be but little decrease in the demand, as heavy shipments are being made from there and the receipts in San Francisco are larger than usual. Stocks are in better shape than anticipated, but the hold-over supply this year will not be very large, owing to the continued orders from the Government, which will not use new hay for months, as the feed must be in first-class shape to be accepted. Haying is being carried on in most sections, and the yield will be heavy. Quite an acreage which was sown for grain will be turned into hay, as the crop did not mature sufficiently to make good grain. Southern California will have to call on this part of the State for hay the coming year, and the indications are that prices will not be very low this season. Old hay is selling at from $9 to $14 a ton, according to variety and quality. Considerable hay is being moved by schooners from that port.

The Tacoma (Wash.) Ledger says that a comparison of the stock of hops in all hands on the Pacific Coast May 6th shows 15,389 bales less than at the same period last year, according to a comparative statistical statement of the Pacific Coast hop crop issued by Herman Klaber & Co., of that city. The crop for 1903 is shown to have amounted to 178,000 bales, of which 55,000 were California, 88,000 Oregon and 35,000 Washington. The stock left in the growers' hands May 6th amounted to but 611 bales, of which 275 bales were in California, 336 in Oregon and none at all in Washington. In dealers' hands on that date were 9000 bales, of which Washington held 1200 bales, Oregon 5500 and California 230 bales. The total stock in dealers' and growers hands on the Coast May 6th, therefore, amounted to 9611 bales. The stock in all hands May 6th totaled 4000 bales in Washington, 13,000 bales in Oregon and 8000 bales in California.

The Redlands Review says that the United States Department of Agriculture has commenced operations on the experimental date farm at Mecca, and five acres of land have been prepared for plants which are expected to arrive from Algeria soon. In fact, the present expectation is that the replanting of the dates will commence some time between May 10 and May 20. R. Holtby Myers, who returned from the base of operations yesterday, reports that Mr. Rogers, manager of the Mecca Land Company, is in receipt of a letter from Professsor A. V. Steubenrauch, who makes that statement. Mr. Myers also says that irrigation work in the five acres being cleared the Government has also commenced.

SLUMBER SONG.

Adown the twilight river we float,
Baby and I together.
Gliding along in our little boat,
Baby and I together.
Down to the wonderful land that waits,
Where the river flows thro' the sunset gates,
While the silvery stars keep watch and ward
As we drift beneath their loving guard,
Baby and I together.

Adown the river we softly glide,
Baby and I together.
As the day goes out on the ebbing tide,
Baby and I together.
The twilight river is broad and deep,
So close to the shadowy banks we keep,
While drowsy poppies nod and sway,
And sleepily beckon us to stay,
Baby and I together.

To Slumberland our craft we steer,
Baby and I together.
Slowly, but surely, our port we near,
Baby and I together.
Where the Dream-tree spreads its branches wide,
And scatters rare fruit on every side,
Down the twilight river we float along,
While lapping waves croon a tender song,
Baby and I together.

A fair little head is drooping low,
Baby and I together.
Gently into the harbor we go,
Baby and I together.
Have reached the shores of Slumberland,
By whispering breezes softly fanned,
Amid the fleet that are anchored fast,
Hush! we are safely moored at last,
Baby and I together.—Helen Hunt Jackson.

A Ray of Sunshine.

The afternoon was warm. I was seated at my desk, hurrying through my letters, my tense nerves irritated to an unconscious degree by a wavering ray of sunshine which came through a rent in the curtain.

I had given orders that no one should be admitted except the post boy, and I was wrestling with my letters and expecting him every moment, when I heard upon my door a knock, first timid and then more decided. As it was the habit of my boy to so express his advent, I sang out, "Come in, can't you?" and did not look up.

The persistent ray, engineered by the breeze—against which I felt rising wrath as my papers began to flutter—caused me to push my manuscript to the farther side, and wheel around with my back to the intruder.

I continued my writing, glancing occasionally at the clock, and finally I said:

"I'll be hanged if you won't have to watch that door tomorrow and keep out everybody except those who come to pay bills."

"How shall I know them?" said a soft voice, whereupon I swung back, that sun ray so dazzling my eyes that I could see but an indistinct object in the further corner.

Gradually the shape resolved itself into a bloused maiden of straight, slender proportions; gray eyes that looked at me steadily with no suggestions of the hidden thought; hands devoid of gloves, loosely clasped, and hair—well, that mischievous sunbeam accounted for its brightness—and a manner indicated by the last knock.

Recovering myself, "How did you get in?" I asked more bluntly than politely.

"Through the door, in response to your invitation," she answered quietly.

"Humph!" I ejaculated, with growing interest; then remembering myself—

"Excuse me, but I had given orders that no one should be admitted, and I expected only my post boy. What can I do for you? Be seated, will you?"

She was standing.

"Thank you, no. In justice to your employes, I must tell you the rooms were empty, so I came directly to your door."

"Oh! yes—I had forgotten. Well"—with a glance at the unfinished letters—"how can I serve you?"

"I want something to do," she said, and then I was reminded of the first knock.

I groaned inwardly. She was the fourth who had called hunting for "something to do."

"Have you ever worked on a newspaper?" I asked, feeling sure this would end the interview.

"Oh, no; but I can," earnestly.

"What can you do?"

"Oh, anything," quite innocently.

"But," I said, growing restless, "suppose I were to put you to typesetting?; what would you do?"

"Oh, I would do it."

"Really—" I was desperate, and that sun ray kept running up and down her hair until it shone like burnished gold. "Really, I have nothing at present that you could do, and, indeed, I am well supplied with a full force except—"

I hesitated.

"Except what?" she said eagerly.

"The person I need requires experience."

"I can get experience," she calmly announced, "and I must have employment."

I deserved it for weakening.

"I must beg you to excuse me," I said, pointing to the clock and my letters.

"I'll come again," and for the first time she allowed her eyes to wander round my den.

Bowing rather gravely, she walked out.

For the life of me I could not get the face and the figure out of my mind, and after two or three ineffectual attempts I put on my hat and strolled out, mentally determining that an office boy who should never leave the office was a necessity which I could not longer deny myself, and gleefully wondering if my friend with the burnished hair would accept.

The next morning I hurried to my business with a well-defined plan of action to keep out intruders, when what was my surprise upon opening my door to find my gray-eyed friend, in almost the same position, awaiting my entrance.

"Good morning," I said, trying to be polite.

If I fancied for the moment that there was a gleam of mischief in the wonderfully shaded eyes, I knew the next that I was mistaken, for in her calm, persistent way she said:

"I have come for something to do."

I felt that there was but one alternative, and she saw it, so seating myself resignedly in my chair, I said:

"Pray, be seated, and we will talk the matter over. Have you ever reported?"

"For a newspaper?—no."

"Well, that is what I want—a reporter—some one who can report—"

"Report what?" she interrupted.

"Oh! anything of interest that is happening in the town, country or anywhere."

I wished she would not look at me so steadily.

"Anywhere?" interrogatively.

"Yes, or anybody."

I wondered how snakes felt under the gaze of their charmers.

"You want me to report anybody? and from where I don't know came a dainty lilac pencil and a swell notebook.

Feeling that I was fairly trapped, I said, desperately:

"Yes—write."

"About what?"—pencil suspended.

"About the thing that most interested you lately, and bring it on Thursday that I may know your style."

By the time I had said this much, "Richard was himself again," and I held the door open.

"Thank you."

She bowed, and then, as I heard the outer door swing to, I realized that I knew neither her name or address.

This was Tuesday, so two days later, as I opened my office door, there sat my latest reporter with a typewritten manuscript loosely folded in her hands.

"Good morning, I have brought your manuscript in good time, I hope."

"Well, yes, you are certainly prompt," I could not help saying. "I am glad it is typewritten."

"I always typewrite my manuscript," she replied.

"You have reported before?" I said quickly.

"Oh! no," decidedly. "Shall I wait?" rising.

"Yes, you had better, in case this is not what I want."

I certainly caught a gleam of humor then and turned to the perusal with interest.

"Is it accepted?" she said, demurely.

"Why, of course," I ejaculated, feeling that I had secured a treasure, and thinking of the numberless interviews which had been denied former reporters, and how well this one could manage them.

"I just wanted to know," she said, rising and putting up the notebook. "I'll ask you, please, to return that manuscript! It is only one of a series that I am writing on the difficulties which women experience in forging to the front, and as it rightly belongs to the '——— Woman's Club,' of which I am president, I cannot dispose of it."

"Miss S——?" I exclaimed, recalling a well-known man's daughter.

"The same," she said, now laughing.

"I am a friend of your father's," I said, reemmbering the gleaming hair, and trying to reconcile all the circumstances.

"Yes, he told me. You know, I have but recently returned from abroad. We shall be glad to see you."

"Thank you," I said, feeling dazed, and attending her to the door.

"It this your custom with all your reporters?"

"When they report as well as you do."

* * * * * *

I never got over the dazzle of that sunlight on her hair, and that manuscript is kept as our most priceless treasure—by my wife and myself.—Illustrated Bits.

A HOUSEHOLD REMEDY.

Papa had suffered all day with the toothache and had his hand to the side of his face. His little son, about five, looked at him sympathetically and said: "Papa, I can cure you if you will do what I tell you to. Fill your mouth full of water and go sit on the stove till it boils."—Exchange.

Popping of lamp-chimneys is music to grocers.

MACBETH.

If you use a wrong chimney, you lose a good deal of both light and comfort, and waste a dollar or two a year a lamp on chimneys.

Do you want the Index? Write me.

MACBETH, Pittsburgh.

Nobby Sack Suits

The new loose-cut sacks, designed for men who want to keep a little ahead of the procession, are either very swell or the reverse—depends on how they're tailored. Ours will bear the most critical inspection of men who have the custom-tailor habit—the quality of the cloths, the character of the cut, the careful, painstaking tailoring are above reproach.

$15 to $37.50

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Tourists
To California

Should visit Riverside. It is one of the most beautiful cities in Southern California. Set amid Orange Groves, where life is luxury every day in the year.

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RECIPES

Eat Little, but Have That Little Good

HOW TO MAKE BANANA COMPOTE.

To make banana compote peel and halve bananas lengthwise and put into a pan with enough lemon and liqueuer flavored sugar syrup to cover them. Bring this all just well to the boil, lift out the fruit and lay it on a glass dish. Meanwhile boil the liquid in which the fruit was cooked, flavor to taste with a little more liqueur or whatever spirit was used to flavor it and pour it over the fruit in the dish.

* * *

SANDWICHES.

Daintily prepared sandwiches are necessary whenever light refreshment is served, says the Cincinnati Commercial Tribune. They may be made of white, brown, or graham bread cut very thin and in fancy shapes and always with the crust pared off. Frequently tiny biscuits are used. At some fashionable luncheons a different kind of sandwich is served with each course.

The bread of which the sandwiches are made must be at least one day old and close grained. It must be cut in thin slices. The butter must be of the freshest and sweetest and spread very thin. To secure the best results it is well to work the butter until it is soft enough to spread without crumbling the bread. Always spread the butter on the loaf before cutting, and a very sharp knife is necessary to cut the slices to the necessary degree of thinness.

Mayonnaise sauce is used for all kinds of potted meat or fish sandwiches. For fish sandwiches graham bread is preferred, for sweet sandwiches the whitest of bread.

* * *

Chicken Sandwiches.—Chop the white meat of cold boiled chicken very fine and mix with it enough highly seasoned mayonnaise to make a paste. Chop very fine a few olives and mix with it. Spread on thin slices of bread. Another chicken filling is prepared by chopping the chicken very fine and adding half the quantity of blanched and chopped almonds. Season with salt and paprika. Moisten the mixture with sweet cream until thin enough to spread.

* * *

Lettuce Sandwiches.—Cut the bread very thin and spread thickly with mayonnaise. Lay white, crisp lettuce leaves on the dressing. Press the upper slice of bread down on the lettuce, allowing the leaves to come a little beyond the bread. Watercress used in the same way makes a delicate and pungent relish.

* * *

Caviare Sandwiches.—Take a small box of caviare; turn it into a shallow dish and beat into it alternately and a little at a time lemon juice and olive oil; stir until you have a thick white paste; spread it on the bread and sprinkle over it just a touch of finely minced olives.

* * *

Cream Cheese Sandwiches.—Work the cheese into a smooth paste and spread on one thin slice of bread; on the other slice lay a lettuce leaf with a little mayonnaise or spread thinly with currant or raspberry jelly.

* * *

Peanut Butter Sandwiches.—Cream the peanut butter, adding a teaspoonful of butter to a tablespoonful of peanut butter; spread thickly on two thin slices of bread and put together.

* * *

MACARONI WHEAT BREAD.

A high grade of bread has been made from macaroni wheat flour at the South Dakota Agricultural college. The bread is said to be palatable and nutritious, light, sweet and of dark color.

* * *

SLICING COLD MEAT.

A very sharp knife with a thin blade should be used for slicing cold meats. Slice the meat across the grain as thinly as possible without being thin enough to break. Remove superfluous fat and all gristle. Arrange the slices neatly on a platter and garnish with parsley, celery tips or water cress.

LONG ENGAGEMENTS.

It is one thing to fall in love and another to propose marriage. Men may be wise and cautious, they may have most sensibly made up their minds that it would neither be right nor fair for them to speak, and they have definitely resolved not to say a word on the subject of marriage till they have, at least, a prospect of making a home for a wife.

Then there comes an accidental upset to their calculations—a word, a look, a blush, a smile. All their fine reasonings are thrown to the winds, they have blurted out the love they meant to keep concealed till the correct moment of avowal came. Susie has confessed she reciprocates the devotion she is told of, and nothing remains but to ask papa's consent, and visit a jeweler's.

But then comes the side that is not all rapture. At first, to be engaged is enough to send any two adoring people up into a seventh heaven of bliss, but by and by that ceases to entirely satisfy. They would like to marry; to belong entirely to each other; to set up housekeeping, and know all the delights of a home which the other shares. The true test of love is not in the proposing and accepting, neither is it in the buying and wearing the ring; it is in the waiting with patience an indefinite time for the fulfillment of a hope of which the proposal and the engagement ring were merely a pledge.

The question again and again arises: How long is it reasonable for a man to ask a girl to wait for him? If it is a year, or even two, or three, he may be justified; for, after all, there is a definite end to the waiting, which draws nearer every day. But if, after five years, say, the end looks no nearer—if he is still just as unlikely to be able to support a wife—should he still expect a girl to go on wasting the best years of her life in his behalf?

If she really loves him, it will not matter to her, though she waited for him 20 years. It will be such an utter impossibility for her to think of any other man than himself that she will not feel her chances in other directions are being spoiled, for if she may not marry him, she would rather not marry anyone else while the world lasts. She will count any waiting short and light that has the hope of being his wife at the end of it, and she will wait without a desire to be free. If she does not love him—why, that is a different matter, and she had better not undertake at all a waiting which she will find intolerable.—New York Weekly.

THE CAT—HOW TO TREAT HER.

"Whene'er I take my walks abroad, how many cats I see!" Everywhere, in town or country, pussy may be found in dozens and hundreds, lying on tops of walls in the sunshine, lazily watching the birds on the lawn, or sitting at the top of the area steps, waiting for the meat man.

Why does every one think that cats live on milk? The idea is widespread, and yet many cats don't like it and will not touch it. Then people wonder what makes the cat so fond of drinking from a pan put under a tap to catch the drip of water while its saucer of milk is standing untasted under the table. In reality puss is rather a thirsty animal for water, and cats, though they can have as much milk as they want, constantly come up to drink from the dog's trough of cool water.

So please let poor puss have a water trough all to herself if there are no kind dogs for her to share it with.

It is very bad for cats to be out all night. Many people turn out their cats at night regularly, and then they wonder that puss looks so thin and wretched and has such a rough coat. Besides this cats left to wander about at night will go incredible distances and sometimes into places where there are infections diseases, which they bring home. Cats are very subject to sore throat and diphtheria, and their friends at home may easily catch these from them.

Cats should have plenty of fish and meat and bones to gnaw. They are carnivorous animals and cannot keep well and strong on bread and milk. The bones will help to keep their teeth clean, and the diet for which nature has formed them will make their coats smooth and glossy.

The distances cats go in search of grass are very great, and the relish with which the town bred puss falls upon a bunch of the coarse herbage known as dog grass if it be brought home for her and tied to the leg of a table so that she can crop and pull at it is very marked. Grass is the cat's natural medicine, cooling and alterative, and should be provided as constantly as possible.

Some folks starve the cat under the impression that doing so makes it more eager to catch mice. This is a cruel fallacy. If the cat is a good mouser it catches mice principally for the ingrained instinct and love of sport and not as a food. It plays with them for a long time and then, having killed them, leaves them uneaten in some corner. Many of course do eat them, but only probably as a tidbit.

Need it be said how cruel and horribly wrong it is to leave a poor cat to fend for itself in the summer holiday when the house is shut up?—Lady.

A CLEAR COMPLEXION.

To keep the skin in a perfectly healthy condition a daily tepid water bath is necessary. It is a good plan to dampen the entire body with a sponge and dry briskly with a rough towel every night just before retiring. This has a soothing influence and induces a sound, invigorating and restful sleep, from which one wakes refreshed. Those desirous of obtaining a fine, healthy looking skin and clear complexion should get all the fresh, pure air and sunshine possible, should sleep eight hours daily, should not eat much meat, pastry or sweets, but drink plenty of water between meals, eat fruit, vegetables and salads. Tomatoes, leeks, carrots and spinach are also good. Green vegetables are one of the best purifiers, and there should be no stint in the use of them, advises the Ladies' World. An old English rhyme says:

With spinach and leek,
Lily cheeks in a week.

POLISH FOR FINE FURNITURE.

An excellent cleaner and polisher for furniture with a very high finish is recommended by an experienced dealer in rare woods. To one tablespoonful of linseed oil add an equal proportion of turpentine, together with a piece of any pure soap the size of a walnut. Pour this into a vessel containing one quart of boiling water and let the whole boil for about ten minutes, stirring it occasionally so that it may be well mixed. This liquid can be used either warm or cold, but it is more effective when warm. It can be heated several times before it will need renewing. Apply with a soft flannel cloth well wrung out to a small portion of the surface to be cleaned. After the dirt has been well wiped off take a fresh flannel to polish with, and a few minutes' vigorous rubbing will soon restore the wood to its original brilliancy.

GLORY OF THE MORNING.

Fortunate is the man or woman who, from business necessity or from choice, arises these glorious mornings before the sun. Just as the stars of night are paling and the hue of the morning light is breaking—gently breaking in the east, one feels the inspiration and the joy of the coming day.

The soft warble of the many song birds, who begin their carols at the first glimmer of the dawn, are companions to any soul capable of understanding the beauties of the songs they sing. Flowers, with which California abounds, freshened by a night of dew, turn their smiling faces toward the light and say, as well as flowers can, "good morning." Then the splendid, health-giving air, so full of life producing elixir, what a pleasure to breathe it! How full of the desire to live it makes one, and what an appetite it creates. Dull, indeed, must the feelings of the individual be who can not draw both health and happiness from a California morning in spring.

FOR THE GOOD OF THE EYES.

When reading, writing, drawing, sewing or engaged in similar work always take care that the room is comfortably cool, that the feet are warm, that there is nothing tight about the neck and that there is plenty of light. Be sure that the sun does not shine directly on the object you are at work on or on objects in front of you and that the light comes from over the left shoulder. The head should not be bent much in reading. The page should be nearly perpendicular to the line of sight. It should not be less than ten inches from the eyes.

HOW TO MAKE A FIRE EXTINGUISHER.

The nervous housewife who lives in constant dread of fire may, with very little trouble, make an extinguisher that will put out a blaze if used at once. All she needs to do is to put three pounds of salt in a gallon of water and to this add one and a half pounds of sal ammoniac. This liquid should be bottled, and when the fire is discovered it should be poured on it. —Farmers' Record.

MIDLAND POULTRY FOOD.

In these days of specialists and experts the poultry keeper who is not alive to up-to-date methods cannot hope to receive full profits from the fowls. The Midland Poultry Food Co., Kansas City, Mo., make a balanced poultry food that is one of the standards of the world. Dr. Petros Nishkian, of the Midland Company, writes: "It suffices to say that to produce a successful food one must consider the functions with all their details of organic chemistry. We have considered these facts and never lose sight of the fact that nature's own laboratory requirements must be met with as much scientific accuracy as an organic chemist can foresee. The sure and positive results from the use of the Midland are heralded to us from all over this great country. We aim to see that the Midland Food is in fact the most economical food on the market, therefore the most commercial, because the Midland is a scientific food. A part of a letter dated January 19, from the Petaluma Incubator Co., Petaluma, Cal., reads: 'We assure you that the Midland is at the top of the ladder, as ever.'"

* * *

A Novel Nest.—S. H. Buckingham of Los Angeles shows us the latest in hens' nests. The sides, top and bottom hinged together so as to enable the poultryman to open up the nest to the sunlight. It is operated by simply releasing a hook at the top of the box when it may be opened out so as to lie flat upon the ground, with the inside of top, bottom and sides in the full blaze of the sun. It may then be coated with whitewash, distillate or other mite killer and when dry closed up, when it becomes a complete nest box again, with handle for carrying it to its regular place.

Mr. Buckingham has applied for a patent and will later be in a position to dispose of rights for its use.

* * *

Blue Andalusians.—Of all the difficult birds to breed true to feather the Andulusian is probably the one most difficult to get birds which will come up to the standard. This one fact might discourage further breeders of this breed were it not for the extreme beauty of the birds when they are once secured, also the great profitableness of this breed. They are remarkable layers of very large eggs. Mrs. Griffith recently told us her Blue Andalusians laid eggs which will weigh seven to the pound. Mrs. Griffith is owner of the Blue Grange yards in Los Angeles, not very large yards, but very fine stock. She told us that while a very large percentage of her stock comes true blue, yet there are bound to be some occasional reversions back to original colors. Mrs. Griffith's stock are all large stocky birds and of beautiful coloring. She guarantees one hundred per cent. of her eggs to be fertile, more than that she could hardly do.

* * *

The Hazlewood Creamery Co. of Portland has established a large creamery which will handle the output of a large number of dairies of Oregon and will put out a gilt-edged product which it is claimed will make Portland famous.

The system to be pursued in collecting the butter fat which the company will use does away with skimming stations and bulky shipments of milk. The butter fat will be secured by the use of hand separators, which the company will supply the farmers, and only sweet creaw will be shipped there to be made into butter. The creamery people handle and recommend the U. S. Cream Separator.

* * *

Mr. Harrison of the Lake Avenue Poultry Yards recently told us that the Cultivator was the best of all advertising mediums in getting customers for his thoroughbred poultry and eggs. Well, it should be, for the Cultivator is reaching more people than ever before in its history and people are learning through it how to make the very profitable poultry business more profitable, hence they look to its columns for the names of reputable dealers. And the Cultivator contains just that kind of names.

Showing Manner of Pruning the Center of the Tree.

PRUNING THE ORANGE.

(Continued from first page.)

of fruit the first year would also be a consideration. These points are merely mentioned that the owner whose grove is his only means of support may not jump too quickly.

Mr. Peyton has faith in his system and I will confess he makes a strong showing, both in argument and in results, but it's human to demand a certain amount of time before we will consent to so radical a change.

Meantime Mr. Peyton's ranch is well worth watching and a great lesson may be given to us.

Cuba is sending more green stuff to the Atlantic cities than ever before. This is an indication of what the future will bring.

Los Angeles Markets.

Los Angeles, May 26

All local dealers report having done a good business during the past week.

At this season of the year all produce dealers are interested more or less in the early marketing of fruit and while other commodities in the produce line have their usual run there is no special movement reported on any one article.

It is predicted that the future demand, while not as large as at the corresponding period last year, will be such that it will consume the offerings in a manner quite satisfactory, as the production on nearly all varieties is smaler, consequently prices will hold firmer, thus benefiting those who were not seriously damaged by the lack of rain or other adverse conditions and have a goodly supply of goods to offer.

Quotations, direct from dealers, are as follows:

Butter.

Butter continues firm at the following prices. All stocks are in good demand and a higher quotation is expected soon.

B. of T. Cream, 2-lb roll	45
Valley creamery, fancy	45
Coast Creamery	40
Cooking, per lb	20

Cheese.

There is no change in the quotations of cheese. Best grades hold firm under a fair demand.

Cal. and 3 lb. hand	16
Cal. Downey and Anchor	12
Northern	11
Swiss	19
Imported do	26½

Eggs.

Fresh ranch eggs are coming in more plentifully, but hold firm at last week's prices.

Fresh ranch	21	22
Store, case count	19	20

Poultry.

Fryers are offered more freely this week, but are being cleaned up immediately.

Broilers are plentiful, but hold at former quotations.

Broilers, up to 1½ lbs		15
Broilers, 1½ to 2 lbs		17
Fryers, 2 to 2½ lbs		20
Young Roosters, 2½ up		22
Hens, No. 1, per lb	13	14
Ducks, per lb	13	14
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

As a result of considerable meat being destroyed at the recent Cudahy fire in Los Angeles, local stocks have advanced, but as yet there has been no change made on the following quotations.

Hogs, per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Old stocks remain at last week's quotation and under a limited demand.

New goods are coming in more freely and are now quoted at a lower figure.

River, per cwt	1 50
Oregon, do	1 60
Local Sweets, white	3 00
Early Rose, new	1 75
Pinkeye	1 50
White	1 50
Nevada Pearls, do	1 50

Vegetables; Mixed.

All varieties are moving freely. A slight change will be noted on several articles. Prices are weaker, caused by unusually heavy receipts this week.

Onion, Silver Skin		1 75
Beets, per 100 lbs		1 25
Cabbage, do		50
Green Peas	02	03
Lettuce, per sack		40
Tomatoes, 25 lb. crate	1 00	1 25
Carrots, per sack		60
String Beans		02
Wax Beans		04
Chiles, green, per lb		05
Rhubarb	50	75
Asparagus		05

CITRUS FRUITS; FRESH

Fancy oranges, 126s, bx	2 25
Do, 150s	1 50
Do, 176s,	1 25
Do, 200s,	1 00
Standards	50
Lemons, fancy, per box	1 00
Standard, do	75
Grape Fruit	1 25
Limes, per 100	90 1 25

DECIDUOUS FRUITS FRESH

Berries and cherries are now being offered quite freely and prices are such that every one is buying. Loganberries are coming in in small quantities.

Four-tier Belleflower		2 00
Four ½ tier, do	1 50	
Pears, Winter Nellis, lb		05
Apricots lb		04
Strawberries	06	07
Loquats		05
Cherries, 10 lb. box	50	80
Bulk cherries		06
Gooseberries		05
Loganberries		15
Watermelons, per doz		9 00

Fruits; Dried.

Apples, evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	07½	08
Peanuts, California	07½	08

HONEY.

White strain, per lb	07
Light amber, do	06

Comb, water white	15
Do. light amber	13

HAY.

New hay is still offered in limited quantities. Larger receipts in the near future are anticipated, as large fields are showing evidence of rapid curing and is reported to be in excellent condition.

Alfalfa	9 00	10 00
Tame Oat		12 00
Barley hay	8 00	12 00
Wheat hay		12 00

GRAIN.

Reports are currant to the effect that the grain yield will be larger than was first supposed. As yet this has not weakened former quotations, and all varieties remain steady at the following prices:

Oats	1 25	1 35
Wheat	1 45	1 55
Barley	1 15	1 17½
Corn	1 30	1 35

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 25
Bran	1 25
Feed Corn Meal	1 55
Middlings	1 45
Cracked Corn	1 45
Oil Cake Meal	1 85
Chicken Wheat	1 65
Cocoanut Meal	1 50

San Francisco Markets.

SAN FRANCISCO, May 26, 1904.

Dairy.

Receipts of butter have been liberal of late and the local demand has been good. The market runs about as last week, with no perceptible change.

BUTTER—Per lb:

Creamery, extras	19
Creamery, good to fancy	18 @18½
Dairy, extra	17 @17½
Dairy, choice, ...	15 @16
Store....	14

CHEESE—Per lb:

California Creamery, mild new, extra	10 @11
California Creamery, new mild, choice	8 @ 9
Young America	10 @11½
Eastern, New York Cream, Cheddars and flats, new..	15 @16

Eggs and Poultry.

The egg market remains as heretofore, with little change. Offerings are liberal with ranch eggs holding firm.

EGGS—Per doz:

Ranch, selected large	20
Ranch, good to choice	18
Store	17½

Poultry is coming in from the East in car load lots and finds ready buyers at stiff prices.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $7.50@8.50; Fryers, $5.50@6.50; Broilers, large, $3@4; small, $2@3; Hens, small, $5@5.50; large, $6@7; Ducks, per doz., old, $4.50@5; young, $5@6; Live Turkeys, per lb., 14@15c; Geese, per pair, $1.25@1.75; Goslings, $1.50@2; Pigeons, per doz., old, $1.25@1.50; young Pigeons, $1.50@1.75; Squabs, $2.50@3.

Fruits and Vegetables.

DECIDUOUS FRUITS.—Apples, per box, $1@2.50.

Cherries, per box, 50@85c.

Apricots—Per crate, $1.75.

BERRIES—Per chest: Strawberries, Longworth, $2.50@5.00; large varieties. $2@3.

CITRUS FRUITS.—Per box: Oranges, Navels, fancy, $2@2.50; choice, $1.35@1.85; standard, $1@1.65, according to size; Seedlings, $1.10@1.25; Lemons, $1.25@2.75; Grape Fruit, $2@2.50; Tangerines, $1.40@1.65; Limes, $5.50@6.

VEGETABLES—Asparagus, per lb., 4½@6c; Tomatoes, per box or crate, southern, $1@1.50; do, Mexican, $1.25@2; Rhubarb, per box, 50c@85c; Green Peppers, per lb., Los Angeles, 8c@15c; Mexican, 10@15c; Dried Peppers, Stockton 5@8c; southern, 8@12½c; String Beans, per lb., 4@6c; Wax Beans, 5@7c; Green Peas, per sack, $1@1.50; Egg Plant, per lb., 8@10c; Summer Squash, per doz., 65@85c; Cucumbers, hothouse, per doz., 50c@$1; Garlic, per lb., new, 5@8c; Dried Okra, per lb., 12½c; Marrowfat Squash, jobbing at 1@2c per lb.

POTATOES—Per ctl.: River Burbanks, $1@$1.25; River Reds, $1@1.10; Oregon Burbanks, $1.25@1.45; New Potatoes, per lb., 1½@2c.

ONIONS—Per ctl: New Red, $1@1.15; Australian, $4.50@5; Green Onions, per box, 35c@50c.

Dried Fruits, Nuts, Etc.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are per lb, as follows:

Apples—Evaporated, 4½@6c; Sun dried, 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice, 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

PEACHES—Choice, 7c; fancy, 8@8½c; peeled, in boxes, nominal.

Pears—Bartlett, fancy, 11½c; choice, 9½@10c.

HONEY.

New Comb, per lb., White, 10@12c; Amber, 8@10c; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

Hops.

The price has gone up one point. Quotations, 26@28½c per lb., according to quality.

Beans.

There is a continued lack of important demand for Beans, but with available offerings relatively light the market maintains a steady undertone at previous prices. Seeds are dull and largely nominal in price.

BEANS—Prices per ctl: Large White, $2.40@$2.65; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.20@3.35; Red, $4.25@4.50; Pink, $3.40@3.60; Bayo, $2.40@2.60; Blackeyes, $2.05@$2.25; Kidneys, $4.75@5.

Live Stock.

Hogs are in heavy supply and with the demand restricted to momentary requirements, the market is easier and prices show a fractional decline. Cattle hold up well and the better stock is steady at full figures. Other Live Stock is without important change.

CATTLE—No. 1 Hay-fed Native Steers, 8½c@9c; second quality, 7½@8c; thin Steers, 6½c@7c; No. 1 Grass-fed Steers, 8@8½c; No. 1 Cows and Heifers, 6½@7c; second quality, 6c@6½c; third quality, 5@5½c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

CALVES—Light, per lb., 4@4½c, gross weight, heavy, 3¾@4¼c, gross weight.

SHEEP—Per lb.: Unshorn Wethers, No. 1, 4c, gross weight; Shorn, 3@3½c; Ewes, No. 1, unshorn, 3½@3¾c, gross weight; shorn, 3@3¼c.

WOOL.

Spring clip, per lb.: San Joaquin and Southern, 12 months' 9@11c; do, 7 months, 8@10c; Middle Counties, free, 12@16c; do, defective, 11@14c; Northern, free, 10@17½c; do, defective, 13@15c; Nevada, 12@15c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $11@15; Wheat and Oat, $11@13.50; Oat, $8.50@13; Barley, $9.50@$11.50; Clover, nominal; Alfalfa, $9@11.50; Stock, nominal.

STRAW—Good to choice, per bale, 60@70c.

FEED CORN MEAL—Choice grades, per ton, $31@31.50.

GROUND BARLEY—Per ton, $23@24.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.50@4.30.

WHEAT—No. 1 shipping, per ctl., $1.27½; Choice, $1.30; White Milling, good to choice, $1.32½@1.45.

BARLEY—Choice No. 1 Feed, $1.03¾@1.07½; off grades, $1.01¼@1.02½; Brewing, No. 1, $1.08¾@1.15; Chevalier, nominal.

OATS—Good to choice, White, $1.40@1.50; Red, $1.30@1.37½; Black, nominal at $1.25@$1.35.

CRACKED CORN—Choice quality, per ton, $33@33.50.

RYE—Good to choice, per ctl., $1.30@1.32½.

CORN—Good to choice, per ctl.: California, new, large Yellow, $1.45@1.55; small, do, $1.60@1.65; White, $1.45@1.55; Eastern, $1.42½@$1.52½.

The following treatment is recommended for fowls with swelled heads: Mix one part spirits of turpentine and four parts of sweet oil. Anoint head, face and comb once a day. Give a one grain pill of equal parts of bromide or potash and quinine twice a day and add a teaspoonful of chlorate of potash to each quart of drinking wa-

Eastern Markets.

Grain and Produce.

CHICAGO, May 25.—From the start, growing weather in America and weakness in foreign markets had a depressing influence on wheat, the July option opened a shade to ¼ to ⅝ lower, at 86½@86⅝c. Small primary receipts in the Southwest tended to encourage bull traders. The demand, however, was not sufficient to cause any considerable advance, the high point on July being reached at 86⅞c. Numerous bearish crop reports were received from the Southwest, and being accompanied by selling orders for the St. Louis houses, the result was a gradual weakening of values. A feature of grain was the wide fluctuations of May delivery, the prices of that delivery jumping from 95 to 96, and then as quickly reacting to 94½c.

Cash quotations were as follows: Flour was firmer; No. 2 spring wheat, 92@98; No. 3, 86@95; No. 2 red, 1.05@1.06; No. 2 corn, 48½; No. 2 yellow, 49½@50; No. 2 oats, 40¼@41; No. 3 white, 41@43; No. 2 yellow, 49½@50; No. 2 oats, 40¾@41; No. 3 rye, 73; good feeding barley, 35@38; fair to choice malting, 45@56; No. 1 flax seed, 1.00; No. 1 Northwestern, 1.06½; prime timothy seed, 3.05; mess pork, per bbl., 11.05@11.10; lard, per 100 lbs., 6.30@6.32½; short ribs, sides (loose), 6.25@6.37½; short clear sides (boxed), 6.25@6.50; clover, contract grade, 10.75.

Articles—	Receipts.	Shipments
Flour, barrels	52,700	43,700
Wheat, bushels	45,000	27,000
Corn, "	268,400	369,400
Oats, "	259,600	152,800
Rye, "	6,000	.....
Barley, "	74,800	8,400

On the Produce Exchange today the butter market was easy; creamery, 13½@17½; dairy, 14@16; eggs, barely steady, 15@15¼; cheese, easy, new, 7¾@8½.

Dried Fruits, Nuts, Etc.

NEW YORK, May 25.—The market for evaporated apples is unchanged; common, 4@5½; prime and choice, 6¼@6½; fancy, 7@7½. Prunes firm at from 3¾ to 5½, according to grade. Apricots are steady; choice, 9½@10; extra choice, 10¼@10½; fancy, 11@13. Peaches are a shade lower; choice, 7@7¼; extra choice, 7½@8; fancy, 9½@10.

Live Stock.

CHICAGO, May 25.—Cattle—Receipts, 24,000; market steady to lower; good to prime steers, 5.15@5.65; poor to medium, 4.25@5.15; stockers and feeders, 3.25@4.75; cows, 1.75@4.60; heifers, 4.20@5.00; canners, 1.75@2.75; bulls, 2.25@4.35; calves, 2.50@5.75; Texas-fed steers, 4.00@4.60. Hogs—Receipts today, 30,000; tomorrow, 25,000; market steady to easy; mixed and butchers', 4.50@4.65; good to choice heavy, 4.60@4.67½; rough heavy, 4.45@4.55; light, 4.45@4.55; bulk of sales, 4.50@4.60. Sheep—Receipts, 13,000; sheep and lambs strong; good to choice wethers, 5.25@5.75; fair to choice mixed, 4.00@5.00; western sheep, 4.75@5.75; native lambs, 5.00@6.50; western lambs, 6.00@7.30; spring lambs, 6.00@7.50.

CITRUS MARKETS

AUCTIONS.

The conditions as to citrus market in the East were much more encouraging earlier in the week, but at this time the warm weather is causing a slightly decreased demand. That is, the weather is such that the fruit is not keeping at all well, not only showing heavy decay on arrival, but is liable to go down on the jobber, that a hand-to-mouth business is conducted. Another factor in the depression is the receipt of large quantities of strawberries.

On Monday and Tuesday $2.50 to $3.60 was commanded by fancy navels, with choice not far in the rear. At present the price is slightly lower, though some fancies sold yesterday at $3.60, but the greater bulk of the fruit sells lower.

Some cars show as high as 15 per cent decay, though nearly all fruit goes forward under ice. A strike of freight handlers has affected some deliveries and made greater decay. Seedlings and Bloods are now going forward and command $1.75 to $2.60.

The hot weather, which has depressed oranges, has stimulated the lemon market, some days showing a ten to twenty-five cent advance. Supplies afloat from Mediterranean points are very limited, hence indications are favorable for good prices for some time to come. Given continued warm weather in the east a successful season is promised.

To enable any one to take a ring off a swollen finger take a cupful of salad oil, put into it the finger, allowing the oil to come up over the ring, and gently rub the finger up and down. You will find the swelling recede, and you will be able to draw the ring off easily.

Canada-West.—The invasion of western Canada by farmers from the United States is becoming a migration almost equal to that of the taking of the great plains of this country some years ago. It has been said that the policy of the authorities of the Canadian government is bound to submerge the native born population under an absolute flood of good American farmers and ranchmen. "During the last year nearly half the immigrants who settled there were from the United States and fifty-four thousand of these acknowledged themselves as citizens born and raised scuth of the border."

It is claimed that at least 100,000 Americans will cross the border and take up this land within the next twelve months. It seems to be simply the shrewdness of the Yankee picking up a good thing when he sees it. In the sections of Alberta, Assiniboia, Saskatchewan and Athabasca—about one thousand miles square—are now nearly two hundred thousand native born citizens of the United States, and the section is more thoroughly American than are some sections of the United States.

All over the United States are agents of the Canadian government giving information regarding the great resources of that section. In Los Angeles A. McGaffin of 305½ South Spring street is able to give the fullest information regarding the one hundred and sixty acres which every citizen of the United States may claim.

The Cudahy packing house, of Los Angeles, burned Tuesday night, entailing a loss of $300,000. The plant will be rebuilt on more extended lines than the old one was built on.

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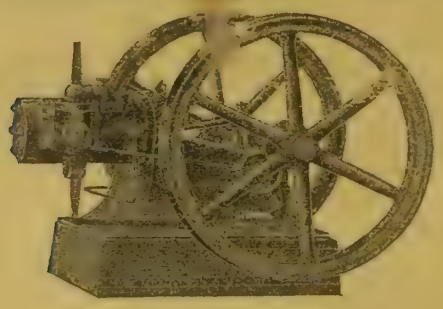

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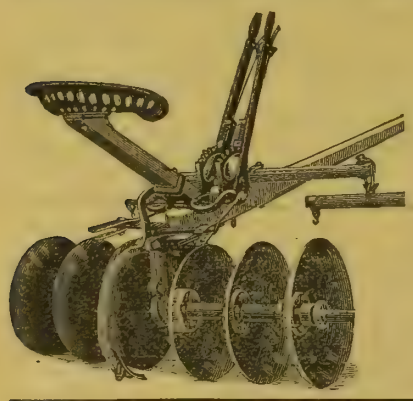

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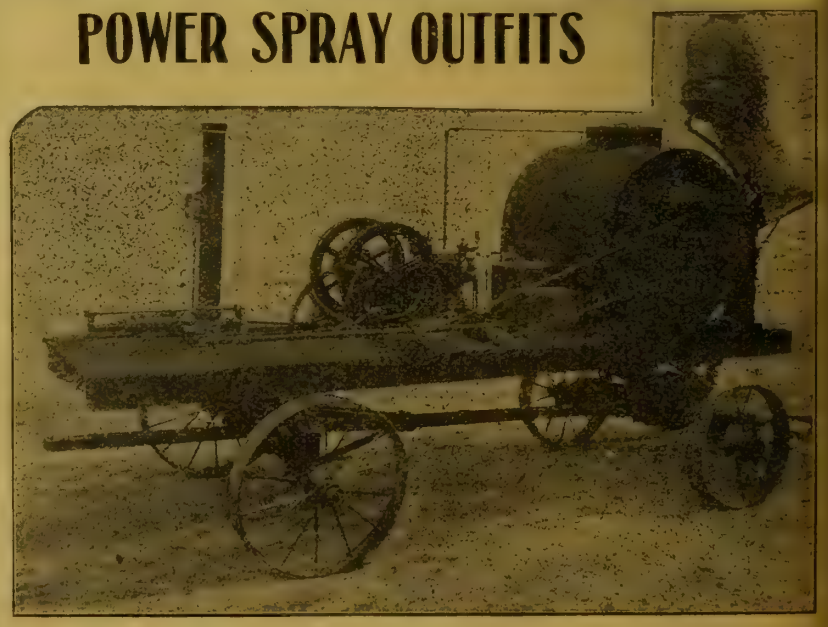

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LOS ANGELES SAN FRANCISCO

JUNE 3, 1904

IN THIS ISSUE: Curing Deciduous Fruits; Combined Fruit and Poultry Culture; Insects Beneficial fo Men; Value of Skim Milk; Lichens.

Our Honored Dead

The Blue and the Gray.

By the flow of the inland river,
Whence the fleets of iron have fled,
Where the blades of the grave-grass quiver,
Asleep are the ranks of the dead;—
Under the sod and the dew,
Waiting the Judgment-day;
Under the one, the Blue;
Under the other, the Gray.

These, in the robings of glory,
Those, in the gloom of defeat,
All, with the battle-blood gory,
In the dusk of eternity meet;—
Under the sod and the dew,
Waiting the Judgment-day;
Under the laurel, the Blue;
Under the willow, the Gray.

From the silence of sorrowful hours,
The desolate mourners go,
Lovingly laden with flowers,
Alike for the friend and the foe;—
Under the sod and the dew,
Waiting the Judgment-day;
Under the roses, the Blue;
Under the lilies, the Gray.

So, with an equal splendor,
The morning sun-rays fall,
With a touch, impartially tender,
On the blossoms blooming for all;—
Under the sod and the dew,
Waiting the Judgment-day;
'Broider'd with gold, the Blue;
Mellow'd with gold, the Gray.

So, when the summer calleth,
On forest and field of grain,
With an equal murmur falleth
The cooling drip of the rain;—
Under the sod and the dew,
Waiting the Judgment-day;
Wet with the rain, the Blue;
Wet with the rain the Gray.

Sadly, but not with upbraiding,
The generous deed was done;
In the storm of the years that are fading,
No braver battle was won;—
Under the sod and the dew,
Waiting the Judgment-day;
Under the blossoms, the Blue;
Under the garlands, the Gray.

No more shall the war-cry sever,
Or the winding rivers be red;
They banish our anger forever,
When they laurel the graves of our dead;—
Under the sod and the dew,
Waiting the Judgment-day;
Love and tears, for the Blue;
Tears and Love, for the Gray.

—F. M. Finch.

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Vol. XXII—No. 23 LOS ANGELES, CAL., FRIDAY, JUNE 3, 1904 Subscription $1 a Year

Curing Deciduous Fruits

It is Time to Clean Up the Trays, Nail and Repair Picking Boxes, Free the Yard of Weeds, Ballast Tracks and Tighten Sulphur Houses. Not Written for the Experienced Dryer.

A little forethought and much work at this time will save a whole lot of haste and waste a little later in the dry yards. In another month, apricots will be demanding attention. Once that time comes, the 'cots want it all and there will be no time for rushing around with hammer and nails to do the work that this is the time to do. The apricot has a way of its own in all the fruit wanting to get ripe first. There is, at best, great loss.

The percentage of this loss should be less on the small rancher's yard than when six hundred to a thousand tons of the green fruit is taken to the large dryer. The small dryer is usually able to command help more quickly and can pick more according to the needs of his cutters and his more direct oversight of the various steps. The large dryer cannot control pickers scattered over large sections so that in hot weather the fruit is rushed in so as to often swamp the capacity of the place.

So we say the small dryers loss should be less, but often is not, because of lack of proper use of the month of June. "Get ready" should be the motto repeated each morning.

Comfortable seats, protected from the sun is necessary if satisfactory help is to be retained. The more comfortable the help, with fair pay, the harder for the other fellow to pull away your best workers at the critical moment. For the shed, a thatch of straw or of eucalyptus brush has answered admirably.

The boxes will need a lot of nails, some old ones, far gone toward the wood pile, may be saved with baling wire, you'll find plenty on the shed roof, just behind the barn. Drive an eight or ten penny nail three-fourths its length through cleat at the end of the box, take a turn about the nail with the wire, then send the nail home and carry the wire around and under the box and up to the other end of the cleat, then draw tight when the end may be secured in the same way.

Trays come next, they need the same attention and more, they need to be thrown into water and after a thorough soaking, a stiff broom or brush should be used to scrub off the dirt and the fungus growth of the past year. This is necessary to the best results. Best results are necessary to best prices. Best prices are necessary to make fruit growing profitable in these times of keen competition.

The track, if of wood, may have warped out of alignment. A new nail here or forcing into line there may save a load or several of them going to the dump.

If the trucks are old, get some of the newer improved ones, which permit of more economical handling. Money paid for labor saving appliances is better than to labor, which at the end of the season has nothing to show for it.

The sulphur house seems to be here to stay. Each year it bobs up for discussion and will not down. Other methods have been experimented with such as confining the fruit in air tight compartments with different gases, but they have always proven too expensive to be of practical value. The Department of Agriculture at Washington has been experimenting with ozone, but that also is too expensive for common use. Some have tried to show sulphured fruit unhealthful, or of poor flavor which has been disputed and as the antis could show nothing to take the place of sulphur, the kicking was of no avail and the sulphur house must be reckoned with.

It must be practically gas tight, may be of studding lathed and plastered on the inside, of matched redwood, or of building paper on light frame. The latter style is sometimes built so light as to be raised and lowered over the car of fruit. Usually one side of the "house" is built so as to open and the car or cars are shoved in, when it is closed, sealed and the sulphur in iron dish is placed under, through an underground opening, and fired.

From this it will be seen that almost perfect exclusion of outside air is necessary.

If the house is old and of matched lumber, it will probably be necessary to line entire with new building paper.

If the trays be placed on the ground, no overhauling of racks is necessary. But the best results cannot be obtained on the ground. Every passing workman raises a dust which in a cloud settles on the adjoining tray of fruit. It is unclean and worse, for the grower, it is unprofitable. The fruit may weigh more but the darker color of the dirt may mean the difference between a good sale and no sale.

Therefore racks eighteen or twenty inches high are profitable. If left over from last year a nail or brace here and there are necessary. One by three Oregon pine is usually used for the racks. If unable to get away from the dusty side of the traveled road, sprinkling should be resorted to.

Knives should be sharpened, pans cleaned, scales oiled and balanced, pitting machines overhauled, or possibly sent to factory to be put in first class condition. The pitting machine is a wonderful labor saver. The Briggs Knight machine costs $150 or $50 rental for the season, but is said to be profitable at that.

Apricots should be ripe, not mushy. They may be "picked" by shaking on

(Continued on Page 547)

Drying Peaches in Kings County.

Insects Beneficial to Man

By John Isaac, before the Farmers' Institute, Courtland, Sacramento Couuty, May 27, 1904

We hear so much of the cost and destructiveness of insects that it is somewhat difficult to conceive that there can be any good in the insect world, a world that, to the farmer, seems to be wholly devoted to his injury. We know all about the destructive work of the Hessian fly in our wheat fields, the damage which the chinch bug does to our growing grain. We know about the codling moth in our apple orchards and how costly it is and the immense damage it does us. We know all about scale insects and their enormous cost to us. We are well acquainted with the army worm, the cut worm, the tent caterpillar and numerous others, which thrust their unwelcome and disagreeable presence upon us year after year to our cost and detriment, and whose existence among us has compelled our farmers to take up the study of economic entomology in their own defence.

We have it on good authority, that at least ten per cent of all the farm products of the United States is annually devoured by insects, and if this computation errs, I think it errs in being too conservative. This means that over $300.000,000 annually is taken out of the pockets of our farmers to support these undesirable and unwelcome members of our commonwealth. Could we get rid of these pests of the orchard and farm and save to the farmer what they consume, he could support the army and navy of the United States out of his savings and still have a handsome balance left, or he could maintain all the educational institutions of the country out of his pocket and then have half of the amount saved to put in the bank for a rainy day. It has become a continuous contest between the farmer and the bugs as to which shall harvest the crops and while in any event they deprive us of much, it is only by constant effort and at a great cost in time, labor and money, that we succeed in keeping them from taking all. In order to defend himself, therefore, the successful farmer has had to educate himself and has become a pretty expert economic entomologist. But it is generally the case that our ills are more deeply felt and more keenly appreciated by us than our blessings, and while we groan loudly under the former, we allow the latter to pass unnoticed. No one thoroughly appreciates good health, or realizes that he possesses it but when he loses it he knows it. Its possession he takes as a matter of course, and it is not worthy of consideration. So it is with all the phases of life and so it is in the insect world. Our injurious insects are ever before our eyes, they cause us to lose our sleep and to turn prematurely gray in our efforts to get the better of them and, in the consideration of this class alone, we at last get to believe that all insects are an unnecessary and pestiferous part of the creation.

* * *

Now, as there is no unmixed good, so there is no such thing as an unmixed evil, and it is to draw your attention to the deep blessings we enjoy from the insect world, and the debt of gratitude which we owe to its members, that I have chosen my subject to-day, and I think it will surprise you when I assert that we could better afford to lose by them five times as much as they now take than to be deprived of them altogether. In fact, were it not for members of the insect world, I question very much whether there would be anything left for us on earth. It is to the insect world that we owe all our many floral beauties; it is to them that we owe our choice fruits, and to them we owe the vast numbers and varieties of vegetable forms with which our earth is decked. These little and seemingly insignificant members of the animal kingdom have been the agents through which a beneficent nature has operated to vary and spread her works. We honor our own Luther Burbank for the wonderful work which he has achieved in his lifetime in giving us new varieties, yet he has only done, in a limited way and in a short time, what the insects have been doing over the whole world and for all time. I need not call your attention to the honey bee in this regard and its beneficent work in carrying pollen from flower to flower, but the bee is not the only insect which does this work and others perform it where the bee would utterly fail; the butterflies and the moths, for instance, with their long tongues, reaching to depths where the short tongued bees could not penetrate. It is in the work of fertilization of plants, very many of which could not exist were it not for them, and most of which would deteriorate and finally succumb, that we owe our greatest debt to the insect world. But aside from this great work, there are very many insects which are directly beneficial to us from a commercial standpoint, that is as actual and immediate producers of wealth. Coming back to the bee again, we all know how immensely valuable is its annual product of honey and wax, so valuable, indeed, that were the supply shut off for a time we should suffer severely, not alone in our food supply, but in many of our arts and sciences. The silk worm is another insect to which we owe a debt of gratitude for it not only adds greatly to the graces of our ladies, but is a source of enormous wealth in its output of silk, its manufacture and transportation, and should it stop its labors for a year, it would entail enormous losses the world over. The materia medica is indebted to the insect world for one of its most valuable vesicatories in the Cantharis vesicatoria. Nor is the family of scale bugs, which injure us so much, wholly without its redeeming members. Some of the most valued dyes used by the ancients, and not altogether fallen into disuse yet, although they have been largely displaced by analine colors, were derived from members of the scale family. The scarlet grains of Poland which were used for ages for producing a beautiful scarlet were scale bugs. This insect was forced from its prominent position by the discovery of the new world and the introduction of cochineal, another scale bug, which had been used by the ancient Mexicans from time immemorial for the same purpose that the scarlet grains had been used on the other side of the world. Another scale bug to which the arts are very largely indebted is the Carteria lacca. This supplies us with the different forms of lac, as shellac, seed lac, stick lac, etc., which form the principal ingredient in all our varnishes and polishes. It is, therefore, to a scale bug that we owe a great part of the beauty of our homes, for without it we should miss the high polish of our pianos, the gloss from our furniture, and all the many forms of laquered and Japanned ware which enter into our every day use. Another scale bug produces the beautiful white wax of China, while another supplies us with the manna which is so common a food for our children and invalids; still another, known as the ground pearl, is used as a personal adornment and, in the Bahama islands, is worked up into jewelry with excellent effect. Nor is the use of the products of the scale insects mere curious experiment, but the value of these products amount to many millions of dallors annually. The United States alone every year pays nearly $4,000,000 for the imports of the lac insect. There are also many indirect ways in which insects aid us, but to these I shall not allude, but come at once to another class of beneficial insects, those which assist us by keeping in check others which prey upon our substance, and these are more numerous than some of us imagine. You have all heard the old rhyme to the effect that:

"These fleas have lesser fleas,
And these have less that bit'em,
And these fleas have lesser fleas,
And so, ad infinitum."

And there is a world of truth in the doggerel. Nature deals largely in checks. She no sooner completes a work, than she sets about producing means for its destruction, and so soon as a species grows in strength until it becomes threatening, another species arises to attack it and keep it down. Were it not for this wise law of nature, this preying of one species upon another, the world would soon be overcrowded, and the most prolific would force all others off the earth, and our planet would become a desert. From the working out of this law we get the survival of the fittest, but the fittest to survive in the struggle for life, is not always the fittest for man's requirements, so it behooves us to study this great law of nature and turn it into channels for our own advantage by surrounding our friends with protective measures and, so much as possible, expose our enemies to their attacks. Another natural law is that those species most subject to destructive force are most prolific. Were this not the case, they would soon be forced off the earth. Animals of large size, great strength or swift of foot, produce few young and at long intervals, whereas those most subjected to danger, which have the slightest tensure upon life, produce enormously. The aphis, for instance, is one of the tenderest of insects; it is subject to very many predaceous insects which devour the offspring by millions, it is utterly incapable of defending itself in any way every wind that blows, every storm, every change in temperature sweep them off in swarms and it is only by its enormous fecundity that it is enabled to exist, and how enormous this fecundity is, a computation made by Sir John Lubbock, a most careful investigator, will show. He has estimated that were it not for the numerous checks to which this insect is subjected, the offspring of a single aphis in one season would exceed in ponerable matter over 500.000,000 able bodied men. There are numerous checks at work on all our insect foes, and unfortunately on our insect friends, too, and they are kept within reasonable limits by this means. In their younger days, while in their crawling state scale insects are exposed to so many dangers from predaceous insects, unfavorable meterological conditions etc., that they die by millions and it is doubtful if much over one in a thousand escapes to continue the species, but you will all agree with me that that one is enough. In their latter stages, they are still subject to attack by parastic insects rungus disease and various destructive forces, and by these means they are kept in check and prevented from wholly devouring all that we produce.

This article will be continued next week, when insects which benefit us in keeping down insects which are injurious, will be spoken of.

THE "BRIGGS" NEW IMPROVED
FRUIT PITTING MACHINE
MODEL 1904

Is Practical In All Its Workings

It cuts the fruit entirely round and pits it more carefully than can be done by hand.
The work is done with wonderful rapidity, six pits being extracted at each revolution of the wheel, whether the fruit be large free-stone peaches or plums of the largest size. It is capable of handling

Two Tons of Peaches, and One Ton of Apricots Per Hour

Thousands of tons of apricots have been satisfactorily cut and pitted with these machines.

It Does Not Push the Pit Through the Fruit

But holds the pit firm while the fruit is carefully removed without being bruised. The pits are delivered separate from the fruit.

The Advantage of This Machine is Very Apparent

As one machine and one man practically represent fifteen or eighteen cutters. This perfect machine, which is guaranteed, is the result of 12 years of experimenting and improving. These machines will be rented for the fruit season for fifty dollars each; for sale at $150 f. o. b. Los Angeles. Address

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TREE PROTECTOR

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Is cheap, durable and quickly put on the tree. It prevents Rabbits from destroying your trees. A sure protection against frost, sun-burn, grasshoppers or dry winds. can be easily removed; will last for years.

Send for samples.

PRICES

12 inch long,	$ 9.00	per 1000
14 inch long,	10.00	per 1000
16 inch long,	11.50	per 1000
18 inch long	12.50	per 1000
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30 inch long	17.50	per 1000

Agents Wanted Everywhere

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CITRUS FRUITS

The present situation in the orange marketing organizations seems to be similar to that following the agitation of oil and water. The separation and clearing of the solution has hardly commenced, yet there is a great rising of bubbles and a sputtering which will soon be followed by each element finding its proper place. We believe the co-operative movement will not suffer any serious defection, in fact there is much to show the exchange will be stronger than ever. The number of new schemes which are suggested as to the manner of handling the fruit and its marketing in the future, are legion.

One would have f. o. b., not the kind we had before, but for sure f. o. b. Another wants all of California's citrus fruit to be auctioned off in Riverside, another in Colton, in Pomona, or in Los Angeles, and so on. This "home auction" would bring the world to our feet. The next would destroy half our fruit here in the orchard and ship the other half. Another would have a state inspector whose certificate should be final and the eastern buyer would be compelled to shut his eyes and swallow the car willy nilly. Another wants to rip the old organizations up the back and down the front and "organize" anew. Agitation and organization are the life of some men.

And so on ad infinitum and each plan is perfect, that is if the one suggesting it had the complete and entire working of it out with no other human entering into it.

Human nature is the greatest factor in the whole question and the best considered by some theorists. A perishable product in great quantity, 3000 miles from market with a trade opposed to co-operative marketing, s a big question alone, but with the always present problem of diverse opinion of fruit growers, the complications are vastly increased. There are those who always stand ready to join the majority and say "I believe it could be better, but I'm with you till we work it out." From this it ranges all the way down to the knocker—the selfish bull headed knocker—for which the world has little use., but as with the mosquito has to put up with.

No matter what plan of marketing is proposed there are those who will not join in with it. As we said, about every fellow wants an organization of his own, but until self is subdued and the best interest of all considered the best results will not be obtained.

Above all keep cool and trust in co-operation.

* * *

NOT RED INK RETURNS.

During the past week the following amounts have been distributed as payments on account by different exchanges to the growers: San Dimas, $12,000; Claremont Citrus Union, $14,000; Indian Hill Citrus Union, $14,000; Pomona Fruit Growers' Exchange, $26,322.50. This makes over $66,000 paid to growers of the Pomona valley, which does not look as though all returns have been in red ink.—Pomona Progress.

So far as the Exchanges are concerned, they will undoubtedly continue to do business along old lines, unless some changes in methods of marketing should be adopted as a result of the agitations going on among the orange growers. At least, so far as the Exchange members in this vicinity are concerned, while they have expressed themselves as favoring cutting loose from the Fruit Agency, they have expressed themselves as favoring the continuance of the Exchange.—Pomona Progress.

* * *

The simple facts are, that a small crop, or a small part of a crop can be sold f. o. b., but with such a crop as we had to handle this year, to have held back the fruit waiting for orders to come in for fruit sold f. o. b. would have meant the total loss of at least half the crop, and the rejection with consequent loss of a large approportion of the so-called f. o. b. sales. Fruit sold delivered or at auction reaches avenues of distribution and consumption that would never be opened by fruit sold f. o. b. California.—Azusa Pomotropic.

* * *

Perhaps the most hopeful feature of the situation is the position of the Southern California Fruit Exchange, which stands calm amid the turmoil; secure in the confidence of its members. It will take up its duties exactly where it drooped them and proceed to market the fruit of its growers—not necessarily on the selling delivered plan, nor yet in the f. o. b., but in the best way that the varying conditions of trade will permit. During the past few months a number of growers have complained bitterly because they could not gain admission to the Exchange The way will soon be open to all such and it is to be hoped for their own good and for that of the industry generally that they will take advantage of it.—Azusa Pomotropic.

* * *

A new corporation has been formed for operation in the fruit business. It is the incorporation of the Stewart Fruit Co. with a capital stock of $100,000; and the information of the organization of the new concern has caused quite a sensation in fruit circles. William H. Stewart, the head of the movement, was formerly with the Earl Fruit Co.

* * *

The big citrus fruit merger, at the head of which stood the California Fruit Agency, has been declared off on the 1st of next September, and the grower is now rejoicing over the prospect of better conditions in the future; at least he is confident that his fruit will fare no worse than when handled by the combine.—Lindsay Gazette.

* * *

Growers may expect, under the marketing methods of the Southern California Fruit Exchange, that all of their fruit will be sold here in California that it is possible to sell in that way and that part of the business will be transacted f. o. b. as it has been. On the other hand, they may also expect that those in charge of the marketing of their fruit, will not sell it for cash in California, or in any other manner, at a less price than can be obtained under the Exchange plan of marketing. This plan has proved in the past that f. o. b. sales to nearby points are desirable and bring satisfactory returns, while on the other hand f. o. b. sales to the farthest markets are as a general thing unsatisfactory.—Uplands News.

* * *

The death of the California Fruit Agency is officially announced to occur September 1. It was, we believe, founded in a sincere belief that it would better insure the growers of citrus fruits higher prices for their crops. Whether it was given a fair trial is not certain, but it is certain that lower prices followed its formation. There were surely some unusual conditions attending its life that may have defeated, to some extent, its purposes and expectations.

The Exchange system saved the industry from ruin. It helped those outside as well as those inside it. It will continue, because of its manifest advantages.—Pomona Times.

CITRUS CULLS FOR FERTILIZER.

The Southern California Academy of Sciences has just issued Bulletin No. 14 on Citrus Culls for Fertilizer, written by S. M. Woodbridge, Ph. D. In it the doctor shows the worth of oranges as a fertilizer and the foolishness of hauling oranges to the "wash" and buying fertilizer to replace them.

We give it in full below and are sorry that he does not carry the argument a trifle farther. That is, we believe the reason for hauling oranges to the "wash" to be absolutely wasted is the fear on the part of the rancher. that the acid of the fruit may "sour" the soil, or in some way injure it. The Professor does not touch upon this point, which may be only a prejudice born of not fully understanding the action of the acid on the soil, only to say, it "will help to decompose the plant food locked up in the soil."

That being true it makes it a most valuable fertilizer, and we trust the Professor will give us something further to show that such prejudice is unfounded. Here is the bulletin in full:

The large heaps of citrus culls seen everywhere about Southern California is the cause of this bulletin.

The inconsistencies of human life are a part of its mysteries. This statement is illustrated by the acts of the citrus rancher in the ordinary conduct of his business. On every hand we see him hauling manure to his ranch, and on the same day, perhaps, hauling away to a dump or the wash, many tons of citrus fruit culls. It is the purpose of this Bulletin to show the relative value of manure and cull citrus fruits as plant foods and their value i humus.

One ton of average manure contains:

	Per Cent.
Water	80.
Dry matter	20.
Phosphoric acid	.35
Potash	.40
Nitrogen	.50

One ton of oranges contains:

	Per Cent.
Water and volatile matter	84.
Dry matter	16.
Phosphoric acid	.067
Potash	.278
Nitrogen	.269

It would apper by the tables, that a ton of manure contains 400 lbs of dry matter or humus and that a ton of oranges 320 lbs., while the oranges contain about one-fifth less dry matter and only about one-half as much plant food as manure still there is no reason why the rancher should throw them away as they cost practically nothing as against $2.00 to $3.00 per ton for manure.

Orange juice contains about one per cent of organic acid, mainly citrus. which will help to decompose the plant food locked up in the soil.

If oranges are well distributed through an orchard, three to six tons per acre, they can be cultivated in during the season, thus keeping the required humus in the soil and avoiding the necessity of purchasing manure and its consequent disagreeable odor.

It is useless to compost oranges as they make a most disagreeable mess, expensive to handle, besides the very chemical action that goes on in the compost heap is beneficial to the soil and should go on in the orchard.

While both farm manure and citrus fruits are good fertilizers and supply that indespensible matter—humus—necessary for the best results, it must not be inferred that either or both of them furnish all the plant food that is required to maintain fertility. In substantiating this assertion we quote A. B. Griffiths, Ph. D., F. R. S., an English authority: "Farm-yard manure is a mixture of the liquid and solid execrements of farm animals with straw, etc. used as litter. It is regarded as the typical manure by farmers and others, because it is supposed to contain all the ingredients required for the growth of crops, and also because it causes a certain amount of disintergration of the soil as well as warming certain lands. Still it is far from being a perfect manure. Soils would become almost barren if farmyard manure was the only manure used in this country."

CITRUS TREES

That will grow, bear profitable crops, and are true to name, are the only kind that we propagate. Thirteen years in the citrus nursery business — hence know the wants of citrus planters. Sumptuously illustrated catalogue on citrus culture *free;* send for a copy.

SAN DIMAS CITRUS NURSERIES
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Fine Orange Trees

All Standard Varieties

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Orange and Lemon TREES

Our Citrus Trees are leaders in their line and can sell you either 1 or 2 year Washington or Thompson Improved Navels, Navelencia and Valencia Late Orange Trees; also Marsh's Seedless Grape Fruit and Lisbon and Eureka Lemons. Trees strong, vigorous, true to name and will grow when planted. Write now for prices on desired stock

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E. I. MARTIN, PROP. REDLANDS, CAL.

Wagner's Nursery
PHONE SUBURBAN 108 PASADENA, CAL.
Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

Conducted by PROF. A. J. COOK, Claremont, Cal

INSECT STUDIES IN THE PHILIPPINES.

A report of the insects working on the Cacao, from Charles S. Banks, government entomologist, located at Manila, is most interesting reading. The report covers 58 pages, besides many full pages of fine photographs. If any one doubts that our occupancy of these far off islands will come to them with blessing, the reading of such reports will disabuse his mind very speedily. It is good to think that all the thought, study and research that our scientific experts have expended, are brought to aid these far off people. It is interesting to note that all the insects described have closely related species that are troubling us here in America, though we are almost the antipodes of our latest adopted fellow citizens.

The Cacao is a legume and the most important product of the islands. The insects described are the ants, Cicada, much the same as ours, Mealy bugs, a longicorn borer, much like ours, white grubs, like those described in our own columns, though of different species. The Termites are the most striking, as they are much larger than are the ones that devastate here. One is figured, which is as long as my middle finger, and even larger, and was found to lay 165 eggs in a minute. This is probably the most prolific animal known to man. Prof. Bank found the Cicada down three or four feet, and discovered it to be a serious pest on the roots that it infests. As is well known, our seventeen-year Cicada of the east lives and feeds on roots in the earth for 17 years, owing doubtless to the cool earth and scant food. Prof. Bank thinks the one in the Philippines lives less than two years. Locusts, thrips, plant lice, Sphingids and scale insects there, as here, levy on the products of the farmer. What a boon to the Filipinos that they can use our experience in battling these insect foes. Our methods will be put in use at once and save immensely in the ranch economy of our new possessions. This report is a credit to our government and will surely prove a God-send to the tillers of the soil in the Philippine Islands.

* * *

LENS OR LENTILS.

Mr. A. F. Maulhardt, Oxnard, asks for information regarding lentils, soil, cultivation, planting, etc., etc. Lentils are legumes and not very far removed from our beans and peas, though nearer the sweet peas and vetches. The genus is Lens, and the glass which we use to magnify objects was named from the fact that it resembles these seeds. Lens esculenta is valuable for food. It is very diffuse, branching freely, and grows from one to two feet high. The flowers are small and the pods short, bearing but two seeds. The color of the seeds is gray or red, differing with the varieties. The seeds are used as we use peas, and are very nutritious. It is stated that they are one-fourth proteids, and more than one-third starch, while the water content is hardly more than half that of the starch. Like our peas and beans, a weevil or snout beetle works on the seeds of the lentils. In case they are to be grown here we should be cautious and not introduce the insect that works on them. They are said to do best on a sandy loam. They may be planted in drills or sow broadcast. Indeed they are grown and cultivated much as we would grow peas. They may be sown any time from September to March. I presume that they would do best if sown in early spring. It is supposed that the pottage that Esau coveted too strongly was made of lentils.

* * *

INSECTS FROM SAN FRANCISCO.

Geo. H. Sanders, a San Franciscan, asks information about several insects sent by him. The black scale is on the olive leaves. This is easily identified by the H on its back. The moths were too rubbed to be identified. A cut worm was dead, and a canker worm was still lively. Several pupae will soon come forth as moths, when they will be recognized. The very spinous grubs are larvae of a common lady bird beetle, our twice-stabbed lady bird, Chilochorus bivulnerous. It is small, black, and has two red spots on the wing covers. These work on the black scale, but not enough to eradicate it. The beetle is one of the fire-fly family and belongs to the genus Telephorus. It is not harmful. For the black scale Mr. S. should get the Scutellista, and for the canker worms he should use some one of the arsenites. I presume that it will be best for him to get Paris green. It is to be used as I have frequently recommended in the Cultivator for codling moth and other insects. He may leave the little lady birds to help the Scutellista in the fight against the black scale.

* * *

BLACK BROOD.

Mr. H., Hanford, asks if we have the black brood in California. The bacteriologists at Washington have studied this black brood thoroughly and report that it is the same, a foul brood, only of a different form. They have raised both now for two years and pronounce the bacillus the same in both cases. This is the more easily believed, as we know that the same remedy effects to cure both. I have long felt that we have two well marked types of foul breed in this section, and I presume that there are three. We are not surprised at this as all forms of life vary, and why not these simplest plants. The sure cure is to remove the bees from the old hive to a new one and see to it that they store none of the honey that they bring with them. Even the old hive can be safely used again with no pains to cleanse, if we are sure to get no honey on it. Of course like surgery, success demands great caution.

* * *

FATAL STINGING BY BEES.

We have reports the past few days of a child and a horse being stung to death by angry bees. The child was permitted to go into the bee yard and is supposed to have angered the bees by poking them with a stick. When found the child was stung so badly that it lived but a short time. The horse belonged to the noted bee keeper, Mr. Mendelsohn of Ventura. It was tied near the bees, and so could not escape, when attacked. In case a person is stung, the best remedy is hot soda water. In case there is no hot water, cold should be used till hot could be secured. Soda, like ammonia, seems to neutralize the poison. Both cold and hot water are excellent to allay congestion. In case a horse or cow is stung badly, there is no better thing than to cover well with blankets kept thoroughly wet with hot water; of not possible to get hot, then use cold. I have known more than one fine horse saved by this remedy. Of course, it goes without saying that small children should not be permitted to go near the bees. Neither should horses or cattle be tethered near bees or in the line of their flight, especially when they are able to gather no stores. Bees are always on the war path when they are suffering enforced idleness.

* * *

TENEBRIONID.

Mr. W. O. Stevens, San Gabriel, sends a small black beetle that he thinks is injuring his cucumber vines. I feel sure that he is mistaken. This is one of our common beetles, and never works on plants. I have received it often from orange growers with a similar complaint. I am sure that it is no evil doer. I suggest that Mr. S. look well and see if he does not see plant lice on his vines. The black aphis is very common on melon and cucumber vines this year, and I suspect that it is the culprit in Mr. S.'s gardens.

* * *

THE BIG PICNIC.

The big club picnic of the several clubs, already noticed, will be held in the park near Pomona, June 6th. The whole day will be given to the discussion of marketing the orange, and excellent speakers, including Mr. Naftzger, will discuss the several propositions connected with the subject.

Oranges

The quality and flavor of the fruit depends upon

Potash

Oranges absorb large quantities of Potash and the orchard should be replenished by a complete fertilizer rich in Potash.

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The Exchange Policy . . .

We recently asked President Naftzger: Will there be any modifications in the policy of the Southern California Fruit Exchange when it resumes active marketing business after September 1st?, and in answer he said:

So far as I am aware the Exchange has not given any consideration to any questions of policy and as my own time is fully taken in the management of the California Fruit Agency, which still has several thousand carloads of fruit to market, I am not prepared to give you anything more than a brief statement of my personal views on the subject. I assume that your inquiry relates to the much discussed question of selling f. o. b. California, or selling delivered. You will agree with me that there is nothing new in this question, it having been most exhaustively discussed years ago. In some manner, the impression appears to have become somewhat general that the Exchange not only does not itself practice selling f. o. b. California, but is hostile to that method of doing the business. Nothing could be further from the truth than a claim of this kind.

In August, 1893, the preliminary organization of the Southern California Fruit Exchange was made, and the plan agreed upon, provided for the organization of district exchanges, and it also provided that: "Each district shall be allowed to fill all f. o. b. orders obtained for any grade of fruit."

When the Exchange was incorporated in 1895, it was expressly provided that all inquiries or orders for any brand of fruit handled by the Exchange should be sent directly to the Exchange that packed the brand, affording every opportunity for and encouraging the filling of such f. o. b. orders by the local exchange. The policy and practice of the Exchange has always been to sell fruit whenever and wherever it could find a customer for it —whether at the packing house, in transit, or delivered. It is true that a very large percentage of all the Exchange fruit for the last 9 years has been sold delivered. The same thing can be said, however, of the fruit sold outside the Exchange. Probably 75% of all of it has been so sold. In saying that the Exchange has always been willing to sell fruit f. o. b. California, I do not wish to be misunderstood. Taking orders for fruit to be shipped subject to inspection on arrival is not selling fruit f. o. b. California. This is merely taking an order for a conditional price subject to revision and the making of another price upon arrival of the fruit at destination. I shall not here attempt to argue the merits of either system of selling. Merely state the facts, as I understand them. The Exchange has always insisted that it must retain absolute control of the fruit until actually sold, so that if the buyer wishes to buy it in California it becomes his property then and there, if not, he would have the opportunity to buy it in his own city upon his own inspection and upon terms agreed upon at the time. The California Fruit Agency made, as I think, a sincere and vigorous effort to sell fruit f. o. b. California, the terms being that the fruit on arrival was only subject to inspection for the purpose of ascertaining the amount of decay, and that no allowance other than for decay would be made for any reason whatever. As a further inducement to purchase f. o. b California; a discount of five cents per box was allowed for California acceptance. This was the inducement for the buyer to take the risk in the matter of decay. Considerable business was done in this manner, although many of the growers connected with the Agency do not consider that it was a satisfactory system of f. o. b selling.

The discussion hinges about the advisability of taking orders, sending forward the fruit subject to inspection, and incidentally to rejection. Many growers and shippers believe that this is a better method than sending the fruit forward without specific orders, to be sold on arrival. You pay your money and take your choice. As I said, I am not going into a discussion of the merits of the matter in this brief statement. I have some views on the subject based upon a good many years' experience, but they are not necessary to an answer to your question.

It is not necessary for the Exchange to modify its policy in order to sell f. o. b. California, as it has always sold in that manner when it had an opportunity and no doubt will continue to do so. The Exchange growers, especially those who have had an active hand in the making and execution of the policy of the Exchange, would probably not claim that their method of marketing is infallible, or that they have a monopoly of wisdom, but they probably would claim that the methods they have been pursuing are based upon experience and are by them believed to be the best for surely and profitably marketing the whole crop. There is certainly nothing new in the contention for selling f. o. b., as every phase of this question was thoroughly discussed years ago. It would be merely threshing old straw to make the arguments over again.

The weather and crop condition for the week ending May 30 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

The temperature during the week was nearly normal and the weather generally clear, with fogs along the coast. Light rain fell in San Diego county and the adjacent foot-hill districts. High northerly winds continued in the central and northern sections. There has been but little recession of the overflow water in the vicinity of Sacramento.

Grain in some sections has been injured by the drying winds, but the full extent of the damage is not yet known It is probable the crop will fall considerably below that of last season in nearly all parts of the State In Southern California grain is considered a failure. Barley has commenced in the Sacramento valley. The hay crop is being rapidly harvested, and in most places the yield and quality are reported very good. Hops are making excellent growth, though some weeks later than usual, and a heavy crop is expected. Corn in Sonoma county is making vigorous growth. Sugar beets, beans and vegetables are in good condition. Pasturage is failing rapidly, but cattle are still doing well.

A GOOD FOOD.

The method of feeding little chicks is so radically different from that in vogue a few years since, and at the same time so much more successful and satisfactory that it has much simplified the problem of chick raising. Formerly boiled eggs, stale bread, cooked mashes and mushes of all imaginable ingredients were in favor. The result was—often at least—sickly chicks with a large death rate.

Now, its so different. Not that everybody can all the time raise all their chicks, but the percentage raised has been very greatly increased and, as well, we believe, the stock healthier and stronger.

Now it is ready mixed, dry feed. A dry feed which is a balanced ration, balanced in this, that it contains all the elements required for a growing chick. Cracked wheat is the basis; then there is rice, millet, corn, grit, meat meal, charcoal, and a dozen and one other things which we know not of, and as a result of such feed and pure water, there is no bowel trouble and the young chick grows like a weed.

J. M. Wright, manager of the West Coast Stock Food Co., of Pasadena, says there are lots of good feeds on the market, but when it comes down to

Black Prince.—A Black Langshan cock, a prize winner and descendant of a long line of prize winners raised on West Coast Chick Food. At the head of Mr. Wright's yards. Won 1st at Los Angeles, December, '03.

the one which walks all around the others it's surely made in Pasadena. To the end that he might show this, he took one of the Cultivator staff behind his two-forty stepper one day last week and showed some Pasadena poultry yards. The speed of this roadster is said to be due to West Coast stock food, though we don't know as Mr. Wright will guarantee an equal speed from all horses to which it is fed.

By the way, Pasadena is a mighty pretty town. Everybody knows that, but it does no harm to say it once more. It is also surrounded by a great number of productive little ranches which supply poultry, garden truck and small fruits in great quantity to Pasadena and Los Angeles. Amongst these poultry raisers Mr. Wright found those who bank upon the West Coast foods. There are several of these foods: Stock food, chick feed, egg producer, and poultry tonic, and another product of the same company is a lice killer and Killamite.

The factory is located at Raymond and California streets. The present capacity is about two tons of chick food per day, with power to greatly increase that capacity.

On the ride about the "Crown of the Valley" several little stores at North Pasadena and suburban places were called at and universally the West Coast was getting low and orders for more were placed. "They sell well, as people find their qualities" is the verdict.

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LICHENS

BY A. J. McCLATCHIE, PHOENIX, ARIZ.

The lichens constitute a group of plants of considerable interest to all. They grow on rocks, on trees, on old fences and buildings, and on soil, usually being among the first living things to attach themselves to newly exposed rock or wood surfaces. Some species hang in festoons from tree trunks and branches, as they do from oaks between Santa Barbara and San Francisco, but the majority of them are comparatively inconspicuous.

The most interesting feature of the lichens is their structure and method of growth. The fact that they grow upon bare surfaces, often hanging or standing in the air free from any solid substance except a small point of attachment, naturally arouses interest in the source of their food supply. Upon examination with the microscope, it is found that what we term a lichen plant is made up of multitudes of minute plants that are readily recognized as minute green algae, and a multitude of nearly colorless filaments or short cells, like those of a fungus, the latter by their growth determining the shape of the lichen structure and enclosing the algae. The lichen plants consist, then, of a large colony of algae enveloped by a mass of interwoven fungus filaments. The algae multiply by fission and all within an individual lichen may have developed from a single parent plant that had been enclosed by the fungus filaments as they developed from a spore.

The fungus filaments not only envelop the algae but derive their food supply from them. Algae find in water all the elements of food needed by them; therefore, during times of rainy or wet weather they find enough water upon the surface of soil, upon rocks, trees, fences and buildings to enable them to live and grow. However, during periods when the surface upon which they are situated is dry they become dormant. During moist weather, therefore, not only can the algae grow but furnish a food supply for the lichen fungus filaments that attach themselves to them. The fungus filaments of the lichens are, therefore, parasitic upon the enclosed algae, as some of the moulds and mildews are parasitic upon the tissues of higher plants. But unlike the latter parasites, the fungus filaments of the lichen envelop and protect the plants from which they derive their food. By their power of absorbing and retaining vaporous moisture they also furnish to the algae water during the periods when they would otherwise be dry. Each of the two lichen elements, therefore, the algae and the fungus—derive benefit from the other, and contributes something to the welfare of the other.

It will be seen from the foregoing that the lichens do not draw their nourishment from the objects to which they are attached, the two elements of which the plant is composed being mutually dependent upon one another, but also mutually independent of all other things. There is quite a common notion that lichens draw nourishment from tree trunks, for example, to which they are attached, and thus do injury to them. While a heavy growth of lichen upon a fruit tree may indicate an unthrifty condition of the tree, and may in some way affect the tree physically, these lichens are not drawing nourishment from it.

Not only are most lichens entirely harmless, but many of them are very useful. The so-called Reindeer Moss that grows so abundantly in the Arctic regions furnishes an important food supply for the reindeer during a large part of the year. Still more interesting is the Manna Lichen that grows in southeastern Europe, and is used as a food supply by the inhabitants during years of scarcity of grain. The so-called Iceland moss, besides serving important uses as a medicine and in the industries, is an important article of diet in Iceland, where it grows in great abundance. Besides being useful as food for man and the lower animals, lichens yield several kinds of coloring matter, the litmus used so much in chemical laboratories being one of the most useful.

* * *

SWINGLE'S DATE PALM BULLETIN.

The writer has received some inquiries concerning the bulletin upon the date palm written by Professor Swingle, and published recently by the Department of Agriculture. We have no copies at the Arizona station for distribution, but they can undoubtedly be obtained by sending to the Bureau of Plant Industry, Washington, D. C. The bulletin should be secured by all interested in date culture, as it is the most extensive work upon this subject that has appeared in America. It treats of the propagation of the date palm and the care and irrigation of the orchard. The various varieties are discussed and the requiremnets for the proper ripening of each given. Especial attention is given to the resistance of the date palm to alkali, and the regions in the United States where dates are likely to be most profitable is in the irrigated portion of the Colorado desert. Here, he thinks the Deglet Noor, the variety that brings the highest price, will ripen. In many other parts of the Southwest, especially in the Salt River valley about Phoenix, he thinks that dates of what he calls the second class can be very successfully and profitably grown.

HIGH-PRICED POTATOES IN ENGLAND.

In the United Kingdom about 1,200,000 acres are devoted to growing potatoes, mostly of varieties which readily succumb to disease and therefore yield little profit. This fact has led to the propagation of hybridized disease-resisting varieties, with extraordinary results.

The principal potato-growing section of England is Lincolnshire, lying between this county (Nottingham) and the North Sea. Recently some new varieties have been introduced there, the most noteworthy being the Eldorado and Northern Star, which have been sold at auction and at ordinary sale for prices incredible to one who has not studied the subject. The history of the latest of the new varieties will serve as generally descriptive of all.

Archibald Findlay of Markinch, Scotland, is the originator of the Eldorado. Every variety of potato, as agriculturists well know, steadily deteriorates in cropping and disease-resisting powers till it reaches a point where it can no longer be profitably raised. This point is reached, growers state, in a few years generally, and in 12 or 15 years at the very utmost.

There is, however, one "stayer" recorded, which has been profitably yielding now for about 30 years. But the rule is that vigor can be maintained only by the constant bringing forward of new varieties by cross-breeding. Following this rule, Mr. Findlay brought out the Eldorado, after tests which convinced him that it had great possibilities. A sample was at once introduced into Lincolnshire, the purchaser paying Mr. Findlay one guinea ($5.11) a pound for it. This would seem to be a rather high price for a handful of potatoes, but it is nothing to what has been realized by subsequent sales in Lincolnshire from the aforesaid samples. One of the first recorded sales was ten small potatoes, weighing about half a pound, for £100 ($486.65), or $48.665 for each potato. At an auction sale of fourteen potatoes, the aggregate price realized was £254 10s ($1238.52). The prices per potato ranged from £8 ($38.93) to £49 ($238.46). This £49 potato weighed ten ounces. The £8 tuber was about the size of an average hickory nut.—Country Gentleman.

A Newcastle correspondent of the Sacramento Bee says that it is becoming apparent that the fruit crops of Placer county are to fall short of the expectations that prevailed in the earlier part of the season, when it was predicted that the yield of all varieties would be large. The recent storms, which came on at the time when the trees were in bloom, were of such duration as to blight the blossoms, and on account of the excessive moisture the regular pollenization did not occur and in many places where it took place it was of an imperfect nature, and although the fruit formed it is now dropping from the trees. It is now considered a certainty that in many varieties the crop is so light that the shipping houses and canneries will soon begin a scramble for supplies.

The Fruitman's Guide says "Authentic advices reached the Guide office this week to the effect that unless something very unforeseen happens France will have extraordinary large crops of all kinds of fruit—pears, cherries, plums, etc. The importance of this news lies in the bearing that it has on the prospects of California deciduous fruits in the foreign markets. Last year the French crops, which form the normal supply of the markets of the United Kingdom, were a total failure and California profited exceedingly thereby. This year conditions are very different; France gives promise of bumper crops all round and California's job of subjugating the foreign markets for the second year in succession will be a very ticklish and hazardous job."

The Marin County Toscin says that a number of gentlemen who are desirous of obtaining 4000 acres of land suitable for raising sugar beets, recently paid Marin county a visit. At the time of their visit they were not aware that experiments in raising sugar beets had already been made in the neighborhood of Tomales. In 1899 the farmers of Tomales under the supervision of Mr. Raff, the beet expert of the California and Hawaiian Sugar Refinery company, planted thirty acres in sugar beets, the aforementioned company having supplied the necessary seed. The seed was planted on the Burbank, Bassett, Fouvault, Keys, Marshall, Dillon, Irvine and Mulvaney ranches and two carloads of beets were thereafter shipped to the refinery at Crockett and tested. The beet exceeded all expectations and ran from 16 per cent., sugar, purity 84.1, to 22.67 per cent. sugar, purity 92.84. Mr. Raff at that time made a thorough investigation of the soil and other conditions about Tomales and pronounced that section peculiarly adapted to the raising of the beet.

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General Agriculture

INOCULATING THE GROUND.

To inoculate sterile ground and make it bring forth fruit in abundance is one of the latest achievements of American science. Some of man's most dread diseases—smallpox, diphtheria, plague, rabies—have been vanquished by inoculation, and now inoculation is to cure soil that has been worn out and make it fertile and productive again.

The germs that bring fertility are mailed by the department of agriculture in a small package like a yeast cake. The cake contains millions of dried germs. The farmer who receives the cake drops it into a barrel of clean water; the germs are revived and soon turn the water to a milky white. Seeds of clover, peas, alfalfa, or other leguminous plants that are then soaked in this milky preparation, are endowed with marvelous strength. Land on which, for instance, the farmer with constant toil had obtained alfalfa only a few inches high, when planted with these inoculated seeds will produce alfalfa several feet high and so rich that the farmer does not recognize his crop.—Natl. Geographic Magazine.

CUCUMBER GROWING.

Cucumbers do best in a rich, medium heavy soil, (avoid a sandy soil.) Prepare the soil by fertilizing well with barnyard manure. Plow deep as possible, but do not turn up more than one inch of new soil. Make the rows four feet apart, and the hills three feet apart in the rows. If by deep plowing new soil is plowed up remove it in making the hill and cover the seeds with old soil only (I mean soil that has been plowed up before). Plant 10 to 12 seeds to the hill and cover about ¾ to 1 inch deep. Keep clean and hoe often but shallow so as not to injure the small roots. Cultivate deep away from the plants but shallow clos to them. If under irrigation. water lightly and often. Pick off the cucumbers as fast as they reach the desired size and do not allow any to ripen on the vines if you wish to get all the pickles or slicing cucumbers possible, as one ripe one takes as much nourishment as 15 to 20 pickles.—N. W. Horticulturist.

Smut—Two classes of smuts attack our grain, viz., the stinking smut, or bunt, which attacks wheat only, and the loose smut which attacks wheat oats and barley. The stinking smut or bunt has a very characteristic odor and destroys the kernel only, while the loose smut destroys not only the kernel but also more or less of the chaff. Smuts are easily recognized by the dusty outbreaks that they produce on certain parts of the plants which they attack when they reach their reproductive stage.

The life history of a smut fungus consists of two stages—the growth, or mycelial stage, and the reproductive or spore state. During the growth or mycelial stage the smut spreads and develops through its host. Being within the host plant, the smut is, during this stage, invisible to the naked eye, and there is usually nothing peculiar in the way of discolored or swollen tissue to separate such an infested plant from one free from the fungus. The reproductive or spore stage is found near the surface of some part of the plant, and usually becomes visible from the first by the distortion produced and by the prevention of the normal growth of the tissue or organs of the host. These outbreaks mature into a dark, dusty mass of spores. These spores correspond in function to the seeds of higher plants. The spores germinate, sending out a slender threadlike substance which has the power of penetrating the tender tissue of its host and there giving rise to the mycelium This germ tube may remain short and from its sides or end give rise to slender, short, colorless bodies, called sporidia, which under certain conditions of moisture and nourishment reproduce themselves in countless numbers by budding at their ends. In this way the number of germs is greatly increased and the chance of infecting the host likewise strengthened, since these sporidia may germinate into slender infection threads whose office is the same as those originating from the germ tube of the spore.

The smut germs can infest their host plant only when the exposed parts are quite young, and usually only at certain places.—Utah Exp. Station Bulletin.

The Department of Agriculture warns farmers to look out for poor alfalfa seed, as the recent increased demand is causing a great deal of adulterated and poor seed to get on to the market. One sample bought in the open market contained only 6 per cent of seed that would grow. As high as 500 dodder seeds were found in one pound, and dodder is the most dangerous of all adulterants. All sorts of clover seeds were found in it, and anything that resembled alfalfa seed was used. Burr clover is used as an adulterant and is sold as Chilean Lucerne It is secured at the German woolen factories and is taken from combings of the wool. Dooder, or "love vine," seed resembles alfalfa seed slightly being small and a little lighter in color. It may be sifted out with a sieve with the proper sized mesh. Dead alfalfa seed is common and may be distinguished by the brown color, and seed that is not a live olive green will not grow.

AGRICULTURAL NOTES.

The experienced farmer knows it pays better to farm 20 acres thoroughly than to work over twice the number of acres in a hasty and indifferent way.

Some good authority has said that the cultivation of crops is as important as good soil or an application of fertilizer. It is more, for in rich soil without cultivation the crop would soon become weed-choked.

Too many seem to consider that cultivation is merely to destroy weeds. Proper cultivaton not only destroys weed growth, but it conditions the soil to aid plant growth, lets in the air and sun, conserves the moisture and in time of a protracted drouth serves as a mulch. A corn field that has the soil stirred with the cultivator during a "dry spell" never shows the effects of the weather as much as field not cultivated.

When you see a new weed make its appearance on the farm, and specially if it is one of the pests on some other farm, pull it up at once. Don't let it get a chance to make a start.

The land roller is one of the most useful farm implements, yet there are many farmers that never make use of one.

Irregular feeding of stock will soon disarrange the natural action of the digestive and assimilative organs.—Baltimore Sun.

Mr. C. P. Hartley of of tne department of agriculture contributes some popcorn lore to the Scientific American. He says that the popping of the corn is due to the generation of gas from the oil contained in the kernel. Field corn does not pop as readily as popcorn because the shell is more porous, permitting the escape of the oil as it volatilizes, while in the case of popcorn a great pressure is developed in the kernal by the confined oil, and the kernel is suddenly exploded and turned wrong side out. Popcorn pops more readily when dry because when moist the kernals are swollen, the shell more porous and tougher and the kernels do not explode so suddenly and completely as when dry and hard.—Farmer's Tribune.

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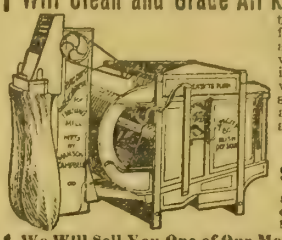

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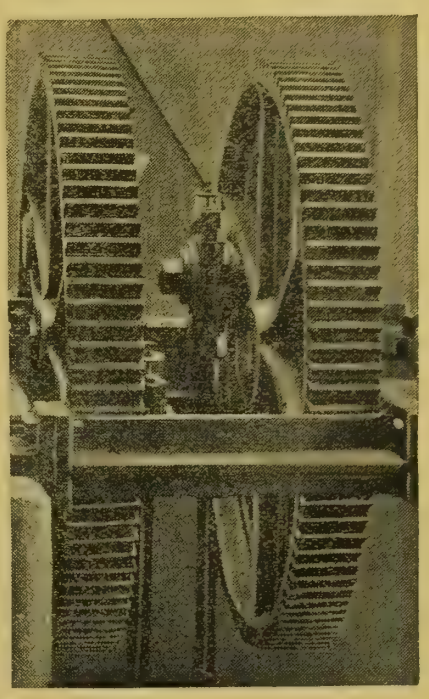

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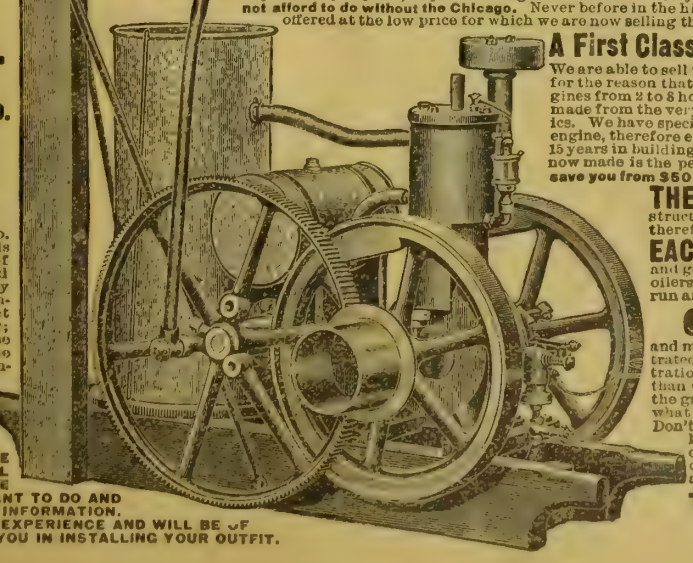

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KEEP COOL.

The Redlands Citrograph is making a strong fight for the California Citrus Union which is all right. It is also making a strong fight against the Southern California Fruit Exchange, which we believe is all wrong. The co-operation of various fruit growers of California to save the citrus industry from absolute destruction is worthy the hearty support of every right thinking person. And it ill becomes any to attempt to tear down that which has done as much as this to save the industry.

But the management has made mistakes.

Possibly! The directors are human. Any of the rest of us might have done better had we been in their places, but would we?

The f. o. b. method may become perfect. It never yet achieved perfection nor even approximated it, that is as to disposal of the whole or any material portion of a perishable crop. So far as possible the Exchange has used, is to-day using it, but beyond its possibilities other methods must be devised. But as to the old so called f. o. b. there are not any material number of the older growers—those who were here, eight or ten years since—who take kindly to it. The awfulness of the slump and disaster which followed that plan, is still fresh in some minds. The results of this year are not a circumstance compared to it. Others have forgotten and wish another whirl at it. For instance, from the Citrograph: "Some new associations have been formed, all guided solely by the f. o. b. idea, and all determined to stand or fall by that method of selling. These new associations are also determined to make friends with the eastern fruit men, instead of antagonizing them, as the Exchange has done so persistently, thus making them bitter enemies of California oranges instead of friends. Now let all these several associations join with the Citrus Union in marketing, thus reducing expenses and saving profits. The Citrus Union, properly handled, will be a power for good and a tower of strength. And it will be properly handled under the skillful guidance of the experienced fruit shippers who are in control."

All of which hinges on the words "properly handled". Properly handled, there never would have been need of the Exchange. Properly handled there would be no reason for the grower to still continue to enter into the marketing end of the business.

But the grower has learned from most bitter experience that he is of necessity compelled to watch his own interests or be strangled by those who will not permit a living to the producer.

He who would tear this organization apart is taking a position which may mean disastrous results to one of the great industries of the State. It isn't a question of personalities, but a question of principles which must be worked out. Be it f. o. b. or "delivered", work it out, the fittest will survive, but don't waste any strength lambasting the other fellow.

Meantime we note in the Citrograph: "There seems to be a genuine hypnotic spell over the Exchange people. They insist that there is but one gospel for the orange grower and that Naftzger is the only true expounder thereof. And Mr. Naftzger himself says that there will be no Exchange unless he is at the head of the concern. And we opine that is the truest word Mr. Naftzger has said in ten years."

We believe the first of the above proposition to be untrue. There is no "spell" over such competent and intelligent a class as are the orange growers and their representatives, the directors of the Southern California Fruit Exchange.

Mr Naftzger may have said "there will be no Exchange" etc. but we don't believe it.

But if he did, we don't believe it is the "truest word he has said in ten years." The organized citrus industry is bigger than any one man, though we believe in the securing the biggest man to be found, then, within reasonable limits, giving him the reins and sustain him while his usefulness lasts. The Central Exchange is a business organization composed of delegates elected from the various local organizations. These men are responsible to the members for the management of the Exchange to an equal extent with the president and they shape its policies and have oversight of their execution.

Those not members, who would destroy the Exchange may feel that it may best and soonest be accomplished by creating prejudices against some one feature or person. But at this time we believe it a good suggestion to the grower that the true friend of this great industry will at this time council cool headed, wise study of the situation, then deliberate, determined action. Determined, also, in this, that individual opinion must give way and the majority rule.

Above all, keep cool.

FARMERS' CLUB PICNIC.

The annual picnic of the farmers and orchardists of the valley, extending from Covina east to Upland and south to the Chino hills, will occur at Ganesha Park, Pomona, June 6, 1904. The program is:

M. B. Curtis of San Dimas—By products of citrus fruits.

Judge Franklin Blades—The Exchange, sales delivered.

O. J. Oatman of Riverside, and M. V. Hartranft—California, or home auction plan.

B. F. Livingston of Covina.—F. O. B. sales.

Prof. A. J. Cook of Claremont—High salaries.

A. H. Naftzger of Los Angeles—The situation.

THE RAISIN SITUATION.

The return of President Madsen, of California Raisin Growers' Association, has renewed interest in the raisin situation and the question is asked, will the new president save the association. The feeling amongst the growers is anything but encouraging. In fact, such as well mean the downfall of the association and consequent vast injury to the industry unless a change soon occurs.

The first step taken by the new president—an appeal to the growers— is a most hopeful indication of ability. It is a square and manly statement of the condition of the market and of the association and passes the responsibility for future success or failure exactly where it belongs—with the members of the association. No one can take the association, with the trade watching the members, attempting to destroy it, and inspire any confidence in the trade.

If the raisin men cannot respond to such a manly appeal as this is, and all join in attempting to pull the association together, they are not worth saving.

The letter to the growers is such a manly statement that we give it in full:

To the Growers—As far as I can see, the affairs of the association in general are in bad shape. The growers don't seem to care very much whether there is an association or not. If that is actually the case, it seems to me it is not much use for me to waste my time on the association, for, if we do not have an association formed pretty soon, and a strong one at that—a growers' and not a packers' association—we will not be able to dispose of what we have on hand, as the trade is certainly not going to buy your raisins when they will be able to get new raisins for nothing, so growers drop that "don't-care-a-snap" feeling and think seriously of what the consequence will be.

First—We will have to take up and pay off the debt of the association; and,

Second—We will get next to nothing out of this coming crop.

Stop and think what that will mean for everybody. As I understand, you had large hopes on my return and that I would be able to do wonders. Let me tell you, without prospects of a strong association, we can do nothing. The trade needs the raisins, there are hardly any in the market, still they are afraid to buy, and why? Because they know if there is no association, they will buy raisins at their own price.

I understand there are some who would not join the association because Mr. Kearney was not elected president. Now, let us stop all that talk and petty spite and jealousy and act as men. Let us stand together and form a growers' association once and try how that will work. We have tried the packers' association, and it seems you don't like it. If you will stand by me and help to form a growers' association, I will work with you day and night. We will form an association on the district representation and strictly on a co-operative plan, which we are working on now, and it will be presented to you as soon as we can get it in shape. And I will tell you that, if you do want an association, make up your mind pretty quickly, because I am not here for fun or to have fun with. I will also tell you plainly that I don't care a snap for the honor of the position, nor for the money, and did not raise a finger, either to get the nomination or to be elected. You have put me in this position, and if you will not support me, I will not waste my time as a figure-head of the association. If you growers mean business and want an association, I will do my utmost to carry it through, but an association we must have, harmony, and pretty quickly.

I am not going to play to the gallery and harp on the bankers or the packers—the one we need and the other we might get along without—at any rate, we should deal fair and straight with both, and whatever we do, should do it right, and whatever we say, we should stay with, or else we cannot gain the confidence of the trade and of the people (which we lack now.) The association should stand for honor and fair dealing.

I will act fairly and straight with everybody, but I will stoop to no one.

R. K. MADSEN, President.
Fresno, May 27, 1904.

From One Mail

The following complimentary words were received in one mail this week:

"Herewith find $1 00 renewal subscription to your most valuable paper. I have only words of praise for it."—GEO. M. EDMONDS, Fresno.

"Please find enclosed $2.00 to apply on subscription to the Cultivator, as I must have it."—S. B. HEWETT, Santa Barbara.

"Enclosed find P. O order for renewal. Yours is a good paper."—MISS S. L. STANDISH, Raymond.

"Enclosed find order for $2.00. We do not want paper stopped, as we enjoy it and find it very useful."—MRS. L. A. HEMENWAY, Santa Barbara.

"Now is the Time to Subscribe."

Pacific Coast News Notes

HORTICULTURE.

Prospects are good for a large apple crop in the Lompoc valley.

The Morse company will erect a fruit packing house at Castroville this season.

The hold over crop of prunes in the Pacific northwest is stated to be not over 50 carloads.

The first Loganberries shipped from Watsonville this season were sold at San Francisco for $15 per chest.

The apricot crop now coming on the market will be one of the largest ever raised in the south end of this State.

Apricot orchardists of Ventura county are talking of forming an apricot union to market their crop this season.

The berry growers of Florin are marketing through a co-operative association this season, and so far have had good results.

Twelve car loads of cherries had been shipped from Vacaville up to last Saturday. One car load a day was shipped last week.

R. M. Teague, the citrus nursery man of San Dimas, has received an order by cable to ship orange trees to Western Australia.

L. R. Payne of Fresno, after a trip over the state, predicts as large, or larger crop than last year of peaches, apricots and prunes.

The Smith Brown farm of 500 acres south of Napa has been secured by the State and will be used in connection with the insane asylum.

The cherry and prune crops of the Santa Clara valley were badly damaged by a heavy wind-storm, which prevailed there last Wednesday.

The Kings County Agricultural Association has fixed the dates for the coming race meeting and county fair from Oct. 10th to 15th, inclusive.

The Union Sugar company factory at Santa María has commenced its 1904 campaign. The beets in that locality are said to be very fine this year.

The Redlands Golden Orange association is a newly incorporated fruit company with a capital of $25,000. It will handle both citrus and deciduous fruit.

Some of the date palms from the Sahara desert, Africa, have arrived at Mecca and will be planted at once on the government experiment grounds there.

The Ontario Record says that buyers are in the field offering $20 per ton for apricots and cling peaches and $15 for free stones. Apricots will be a big crop but peaches very short.

The first car load of cherries from California this season was sold at New York, last Wednesday, for $2482. The car came from Vacaville and was rushed to Chicago in six days and to New York in nine—record time.

The apple crop of the Pajaro valley is now placed at about one fourth of the 1903 yield, though the foot hill orchards will be much the better. The greatest loss will be with the Bellefleurs, while the Missouri Pippins will make nearly a full crop.

Cherries are now going out of the Santa Clara valley at the rate of several car loads daily. It is estimated that the shipments this season, from that locality, will be about the same as last which were 116 cars. Besides this, the local canners will use considerable fruit.

Prof. Frederick T. Bioletti, who for the past two years has been giving instruction in South Africa, has been recalled by the University of California and will work with Professor Twight in the investigation of the viticultural industry. Prof. Bioletti is one of the great vine experts of the country.

The dried fruit situation in this state for the 1903 crop is given out as follows by the Packer: peaches, pears and apricots almost cleaned up; prunes a heavy carry-over, mostly in the Santa Clara valley; raisins, nearly two thirds of the last crop, yet to be sold, mostly in the hands of the Raisin Association.

The El Cajon Raisin Company, a new co-operative concern, was formed Saturday by vineyardists, to market their raisin crop this season. The new company is capitalized at $20,000, and will secure a packing house, storage quarters and seeding plant with capacity large enough to handle the crop of the valley, which is estimated at 100 cars.

AGRICULTURE.

Roasting ears were shipped from the Coachella valley last week.

The strawberry crop of Oregon is very heavy this season.

Hay will be a good crop and grain only fair in the Lompoc valley.

Fuller Brothers are putting in a 40-horse power pumping plant on their 500 acre alfalfa ranch east of Chino.

The Chino Land Company have purchased a big combined harvester and thresher. The grain harvest will commence next week.

The big flood in King's river, emptying in Tulare lake, has caused the loss of over ten thousand acres of grain that was counted good for 25 sacks to the acre.

Crops along the coast, between Santa Barbara and San Luis Obispo, are reported to be in splendid condition, while the country around Salinas is dried and parched.

The J. W. Chilton company was organized at San Jose last Saturday with a capital stock at $150,000. The company propose to buy, and sell all kinds of green and dried fruits, as well as other farm produce.

Peter Droge in the Fresno Democrat estimates that the melon crop in the San Joaquin valley will not be as heavy this season as last, but there will be many more melons raised than there will be market for.

The Lima bean acreage in Ventura county will be about 10,000 acres short of last year, when there was planted 30,000 acres and the crop harvested was about 500,000 bags. It is estimated that about 100,000 bags are still held in the warehouses from last year's crop.

The early cantaloupes were shipped from Coachella last week at the rate of a peach crate per day. The melons sold for 50c each on the San Francisco market. This week full crate shipments are being sent out, which will be kept up in increasing quantities till the big crop is harvested. Grapes and watermelons are also promising a big yield.

LIVE STOCK.

A co-operative creamery is to erect a plant at Travers, Tulare county.

The Polytechnic school at San Luis Obispo are advertising for bids to equip a complete dairy plant.

Owing to scarcity of milk the Whitesboro creamery in Mendocino county will not be run this season.

The large bands of sheep through the central part of the state are being moved to the mountains for the summer.

Cattlemen from all over the west met in Denver last week to discuss ways and means as to how to better railroad transportation conditions.

The Kings County Dairy Association at a meeting last week decided to attempt the erection of a factory and manufacturing butter at Hanford.

One hundred and seventeen blooded horses were sold at auction at the Rancho Del Paso, near Sacramento, last week, at an average of $102 per head.

L. Pennoyer has been engaged to start a chicken farm at Ukiah from which he is expected to furnish a thousand dozen of eggs monthly to the State Asylum.

The drouth in Texas has caused the loss of thousands of head of cattle, besides forcing stockmen to ship many herds to Oklahoma and Kansas to be taken care of.

A. G. Spalding, the sporting goods man of Chicago, with his son has purchased 250 acres of land near San Diego and will start a stock farm on which will be raised fancy saddle horses.

The recent rains in Arizona have helped the stock situation greatly. Not so many cattle are being shipped out to be fed and the prospects are that there will be enough water and feed for all the cattle now in the territory.

MISCELLANEOUS.

Visalia has its second annual street fair and carnival in full blast this week.

The extension of the electric road from Watsonville to Hollister is now practically assured.

The Armstrong Nursery Co. of Pomona has been incorporated and stock in the concern is now offered for sale.

The Tulare Grange celebrated its 30th birthday last Saturday. A picnic was held and visiting granges took part in the festivities.

The Montalvo Irrigation company will construct ditches and install a new pumping plant in the vicinity of Montalvo, Ventura county.

The work of repairing the break in the levee at Bouldin Island in the San Joaquin river has been suspended. Already $150,000 has been expended in construction.

The joint farmers club picnic announced for June 6th, at Live Oak Canyon, will be held on that day at Ganesho Park, Pomona. Lack of water caused the change.

The district convention of American Yeomen was held at San Jose last Saturday which was attended by about 150 delegates. The next convention will be held at Oakland in November.

A public celebration was held near Woodville, Tulare county, Wednesday, at which time $100,000 worth of water bonds were burned which had been paid off by the Tule irrigation district.

The Western Pacific railroad has merged its interests with those of Butte and Plumas. Construction work will begin from Stockton to Sacramento, as soon as details of the merger can be arranged.

A proposition is being seriously discussed to establish a water system for the Buena Park country, by putting down wells, to be pumped by electric power. A Los Angeles electric company is to furnish the juice.

A large tract of redwood timber land in lower Humboldt county was sold to an eastern syndicate last week. The land is estimated to have about 400,000,000 feet of timber on it, and the purchase price is given at $600,000.

While drilling for water, near Lompoc last week, a strata, 150 feet thick of clay suitable for fire-brick, stone ware and cement, was struck near the surface. The Record of that city says capital is wanted to make use of this find and make it of practical value.

The California Promotion Committee has called a meeting of the executive officers of all California commercial organizations to meet at Sacramento, June 18th. The object of the meeting is to make the work of the several organizations more effective.

The Cudahy packing house was burned at Los Angeles last week. Loss about $300,000, well insured. The old plant had a capacity of about 90 steers, 200 hogs, besides a larger number of sheep daily, and will be replaced by a bigger factory with up-to-date machinery.

The Arrowhead Reservoir Company have let the contract for the construction of part of the wall for the big dam, which they are to build across Little Bear valley. This dam is expected to impound water sufficient for irrigation of the entire San Bernardino valley.

The officers of the State Polytechnic schools at San Luis Obispo want more students for that institution than were in attendance last year. The farmer boy, who wants a practical education, would do well to look closely into the merits of this institution, before deciding on going elsewhere.

The Central California Honey Producers' Association, recently organized at Hanford, has decided to erect a building for packing and grading honey. An office will be opened in the east, and local dealers in this state will act as agents. The association will put up a brand of pure honey which will be guaranteed.

Many prominent men attended the river convention at San Francisco last week, which was called to discuss and prepare plans to overcome the annual floods from overflowing 750,000 acres of land along the Sacramento and San Joaquin rivers. If these rivers can be confined to their beds during the winter floods, it is estimated that the State will be benefited to the value of $100,000,000.

C. H. SESSIONS, ASSOCIATE EDITOR

IN-BREEDING.

In the face of results in all parts of the world, that there should be such a strange infatuation against in-breeding as prevails in California, seems incredible. We frequently hear otherwise intelligent and informed breeders say they must dispose of what is deemed a good sire because he has been in use in a herd until his get necessitates an outcross, and this at the very first generation. All idea of his own use seems to cease as well as that of the half brothers and sisters of his progeny. Yet the truth is, such a condition shows that the conditions for ideal and highest breeding have just arrived and that the chance the breeder should have been hoping and striving for, has been attained. This is just the opportunity to produce something of special value, to develop and show the real and intensified qualities of the best blood in use and to get into a predominating force that can be relied upon for effectiveness.

At the first cross with an improved strain, other breed influences are having an equal potency upon the calf that must be reckoned with at their full value, besides all chances of a successful "nick" are assumed by the breeder. He cannot know results until he has seen them and has much to learn. At later stages, tendencies, temperament and characteristics are in evidence. But they are only tendencies and lack much of becoming fixed. They represent a very unstable mixture that must be handled with care and true breeding intelligence and, with their uncertainties, have also their possibilities that nothing can cultivate into permanence so well or so surely and the intensifying of these desired qualities by intelligent in-breeding. Indeed, there is no other process by which these changes for the betterment of the breed can be effected and made permanent.

A just consideration of conditions will show that the first cross of dissimilar strains is, in reality, productive of what might properly be called a mongrel in the breed, that is, in the sense that such a product represents blood of a variety of types, dispositions and capabilities. Such a first cross sometimes results in a high type, but rarely and in still fewer instances is that type a fixed one and reliable thus early. It has been one great disadvantage to breeders of the coast that they have been compelled to send East for their finest blood and thus, in a measure, start in fresh to build up a stable line of improved dairying animals.

What is here written has reference principally to dairying stock and more especially to the Jersey breed. In this breed there has been scarcely an animal of noted achievement, either at the pail or in the show ring, that is not closely inbred for many generations, while the number that are so are legion. One of the most noted herds of America and a large one, that of Mr. Geo. E. Peer, has a great array of heavy testing cows that for four or five generations have no out-cross from the blood of Lucy's Stoke Pogis and Melia Ann. The great St. Lambert family was developed into the heaviest producing and most prepotent strain in the world by a system of in-breeding that was amazing. The excellent blood that is now in the State should lead into the careful nursing of its powers indicated above.—C. W. Campbell.

HOG PROSPECTS.

Swine raising is destined to be the next great and prosperous development in this state. No other substantial and dependable business gives quicker and more certain returns than this and more show a larger per cent margin on the proper side of the ledger.

A hog is soon ready to kill and this enables its owner more easily than the raiser of other stock to replace it with a still higher and more profitable type. For this and other reasons, expansion and improvement in swine raising and breeding is advancing. Widespread interest in good blood is awakening. For above all, it pays.—C. W. Campbell.

SORE NECKS ON HORSES.

The most of the machinery now used on the farm is balanced by the tongue, and consequently a great deal of weight comes on the horse's neck, which is liable to get sore during the hot weather. I know how disagreeable it is to drive a horse with a sore neck, besides the pain and annoyance it gives the horse. I find that the trouble can usually be avoided by observing the folowing rules: Never sheck the horse while at work so he cannot lower his head and work the collar front slightly while standing. You will always notice it is the horse that carries his head high that is most liable to get a sore neck. See that the collar fits the neck of the horse so it will not work from side to side as he walks. See also that it is not too short. A short collar is sure to make a sore neck in warm weather.

See that the hames fit the collar. A hame that has to be let out by lengthening the strap at the top is also liable to make a sore neck. As the horse pulls the hames will spread on such a fit, pulling the collar together endwise and spreading it at the same time, so it will work back and forth and is sure to cause trouble. For this reason I prefer the high hame to the short one. With the short hame any alteration has to be made by lengthening or shortening the strap, while it is the hame that should be shortened or lengthened. I have found a sole leather pad that is very generally used a very good pad for the top of the collar. A pad made of deer-skin and heavy harness leather is excellent, where the collar is long enough to admit of its use. It requires a collar an inch longer where it is used with the leather pad.

A sore neck is usually preceded by a bunch coming on the top of the neck where the collar rests. If this is left and the horse worked it soon becomes a deep-seated sore, causing no end of trouble. If this bunch is noticed the first day it appears it can be entirely removed and the horse worked continually if the cause of the trouble is removed and the lump treated with oil of spike every night and morning. It pays to look after the welfare of the horse, as he is our main dependence during the rushing work of summer and a horse with a sore neck can not do his work easily nor as satisfactorily as though he were sound. It never pays to overdo a horse when the weather is excessively warm, and he is almost sure to get sore shoulders or a sore neck, no matter how well his collar fits, if his blood gets overheated. It will often pay to give a horse a pail of water between meals in very warm weather. It may mean some work, but it will pay in the long run to not neglect anything that will add to the comfort of the hard worked animal.—N. W. Agriculturist.

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Value of Skim Milk...

Hoards Dairyman recently sent a list of questions to various experts in America and Canada to bring out information as to feeding value of skim milk. From these replies we quote from a Canadian correspondent:

1. The average value of skim milk as food for calves, pigs or poultry I consider to be about 24c. per cwt. Of course this varies with the cost of other feeds, but taking corn meal as a standard, I would not exchange a cwt. of skim milk for 20 lbs. best meal, though I would want the meal in all cases to mix with the milk. Corn meal usually costs more than one cent per pound with me, but taking mixed meal of the ordinary grown farm grains, I consider a cwt. of the skim milk worth 24 lb. mixed meal. This mixed meal being worth an average of one cent a pound gives skim milk a value of 24c. per cwt. Of course, in some cases it is worth more than this. For young pigs after weaning, and up to the age of three months I believe skim milk is worth more than 24c. per cwt. fed to animals of this class. It may be worth 40c. Also for young calves up to the age of one month or six weeks skim milk is certainly worth more than 24c. per cwt.

Prof. Grisdale, Agriculturist at the National Experiment Farm, Ottawa, Canada, said in my own hearing, and also frequently published, that he got 40c. for the skim milk fed to young and growing pigs in certain individual cases. I believe him. As to its value for poultry, I have had no experience. My next neighbor, however, feeds nothing but skim milk to her hens during the summer and gets fairly good results. She allows it to lobber and thicken, and a dish of milk is constantly before her hens. No grain is fed during the open season. Nothing but skim milk, all the hens will drink.

2. The best way, in my opinion, of treating skim milk at the creamery is a rigid system of eternal cleanliness at the creamery, returning the milk to the patron as soon as possible and feeding it on the farm without any unnecessary delay, keeping all dishes or vessels in which milk is handled scrupulously clean.

3. The greatest feeding value of skim milk is always found in feeding it to young animals. Milk is the natural food of the young animal in its early stages, and it is a most difficult proposition to make young animals thrive without milk. To make the best out of the skim milk it should never be fed alone. Some substitute for the fat abstracted must be provided.

4. To use with skim milk there are two feeds which stand above all the rest. These are flax seed and corn meal. Probably the former is better, but the latter is not to be despised. Both flax seed and sound, finely ground corn meal supply the place of the butter fat extracted, in a very great degree. Both should be used alike, that is scalded with boiling water before mixing with the skim milk. Since flax seed is so hard to procure in late years, we now use corn meal for both calves and pigs almost exclusively, and are quite pleased with the results.

5. Skim milk should be always fed rather warm even in the summer, and in winter it is much more important to feed warm. In summer it may be fed at the temperature of the air, but in winter I like to feed it at natural milk heat. For calves, it certainly should be fed sweet, but for pigs I think it is immaterial. If wanting to feed skim milk to calves, and the milk came into our hands sour, we would heat it to about 160 F. before feeding it to calves.

6. In feeding young calves, there is no need of heating the milk directly. Scald the corn meal for each feed and dilute with some more water than may be necessary, and put the hot corn meal gruel (or flax seed gruel as the case may be) into the cooler milk. The temperature of the milk will then be right for calf feeding. After the milk is drank, a little whole oats should be given immediately in the calf's manger. Calves should have individual feeding stalls, and not be fed indiscriminately, or several together Of course, they may be allowed together after feeding.

7. With pigs, they should begin to drink skim milk when about four weeks old, and while yet suckling the dam. At this age they become quite a drain upon the sow. A small trough in an adjoining compartment may be provided for feeding the litter, or they may just as well be fed, when the sow is let out to exercise round, in the pen which they occupy. I think scalded shorts or middlings the best to mix at first with skim milk for little pigs. This shorts gruel is made in the same way as for young calves. The milk should be warm, of course. Sometimes the young pigs, or some of them, will refuse to drink the mik. In that case, I catch those fellows and dip their heads down to the eyes, in the warm milk. In this way they get a taste of it by licking it from around their noses and it is not long before all are drinking freely of the sweet warm milk.

Usually, some of the youngsters will be tardy in coming to the trough, but these must be watched and attended and made to learn to drink milk. At four weeks of age, once a day may be often enough to offer milk at first. At five weeks milk is given twice a day

Pure St. Lambert Bull,

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and at six to seven weeks the milk and gruel is given three times a day. Pigs thus fed become strong and grow, and notwithstanding their receiving extra feed become a great drain on the sow. For this reason we usually keep the sow from the pigs at night when they reach the age of seven weeks.

8. In the morning the sow is let in to nurse, and after a while turned out again, and by and by, in an hour or two, a feed of skim milk and shorts gruel is given. At eight weeks of age the sow is kept from the pigs entirely, and the pigs made to subsist on skim milk and shorts with a little corn meal and fed four times a day. By this rational method of weaning, the pig and sow practically wean themselves, and there is no trouble or back-set. After weaning entirely at eight weeks, skim milk and shorts should be fed, with a little corn meal, until the pigs are at least three months old. Up to this age a pig does not make much of grass or green stuff, and I think it impossible to wean pigs at eight weeks and make them thrive without an abundance of skim milk. If there is no milk, the pigs cannot be weaned so early. They must be carried on the sow for at least ten weeks, or they will surely become stunted.

9. I am sure fresh and warm, farm separated skim milk is worth one-third more for feeding to young animals, than the average creamery product as the farmer receives it. I believe the farm separator is going to win, and buttermakers and others must submit to the inevitable, and instead of crying against the farm separator, plan to adapt themselves to the new conditions. More intelligent buttermakers will be necessary, men who can be able to visit the farms and see the conditions under which separation is taking place, and be able to politely and tactfully instruct the farmer on separator management and care of the cream, but as important is the ability to test farm separator cream properly and fairly.

There are not a few makers whose tests are a mere matter of form and simple guess work—cunning fellows who are deceiving the patrons to cover their incompetency. It is a matter of no little concern that a man is engaged as maker in a factory who has no license or diploma of guaranty of ability to manipulate the Babcock test and apportion dividends.

10. The constant sending away of skim milk from the farm is its own indictment. The results are patent to any close observer. It is a matter of fact that cheese districts, in which all the fertilizing constituents of the milk are sent away from the farm, that the farm does not improve in fertility. Districts where the cheese factory runs five or six months in the year and where no butter making is carried on, are not progressing, but, on the other hand, are retrograding. By constant pasturing, the farms are becoming poorer, and as the cheese factory closes in the fall, no effort is made to make milk during the winter, so that the cows get but indifferent care and feeding during the winter Few calves are reared, and the pork market is not glutted. And is it a wonder that these farms become poorer and poorer when it is considered that some twenty dollars' worth of fertility is carried off the farm in every ton of cheese, and if the whey itself was made the best use of—many patrons will not take the whey home at all, claiming that it is of no value, and those who do, get little value of it because they do not feed meal with it. And if meal is fed with the whey to their hogs, so little is fed that results are not encouraging. Whey is a splendid hog food, but requires about twice as much meal to feed with it in order to get gratifying results. Making cheese in the summer from about June 1st, and butter the remainder of the year is all right, and probably the best way to get the most out of the cows under present market conditions.

11. In a ton of milk there is nitrogen, 10.2 lbs.; phosphoric acid, 3.4 lbs., potash, 3 lbs. At usual values for these fertilizers a ton of milk is worth $2.00, and 4,000 lbs. is worth $4.00 or 10 cts. per cwt. to scatter on the land. In the various cow-censuses taken by the Dairyman it is a matter of surprise to the writer what little value patrons place on skim milk.

12. What has been said of dairy conditions and farm fertility and progress in cheese districts, where the skim milk is sent away from the farm every day, the very opposite is observable in creamery districts. It is from the creamery districts that the packing companies draw the largest number of good bacon hogs. These districts are able to make dollar for dollar from pigs and cows. That is, for every dollar received for milk, they are able to get another dollar from hogs. This enlarged receipt—this doubling of the income—is only possible where the skim milk is used at home on the farm. Creamery districts are away ahead of cheese districts in progress, in value of dairy and pig stock, in value of land, and in general prosperity.

13. Dirt has certainly a deleterious effect upon the feeding value of skim milk by the growth of injurious bacteria, and very dirty milk would be a prohibitive food to young calves, or very young pigs. Contaminated milk would need to be heated before feeding to these animals, if at all.

14. Pasteurization decreases the digestive value of skim milk by the cooking of the casein and crystallizing of the sugar. I do not favor the pasteurizing of the skim milk at the factory at all. I advocate, instead, cleanliness and despatch in getting the milk back to the farm in the quickest possible time.

15. I do not know that there is very much difference between the feeding value of poor versus rich milk. The difference, if any, should be in favor of the rich milk, as the milk solids are usually in a degree proportionate to the percentage of butter fat in the whole milk. The more fat the more of other solids-not-fat.

16. Of the farm grown feeds, not by-products, corn has the greatest feeding value, and is also one of the best feeds to mix with skim milk What the milk lacks the corn supplies and what the corn lacks in protein, the skim milk supplies. It is hard to assign values, but assuming that 100 lbs. of skim milk is the equivalent of 22½ lbs. corn, we have good data for assuming:

	Worth per Ton.
Cornmeal	$25
Cornmeal	20
Oats	20
Barley	20
Bran	20

	Worth per 100 lbs.
Skim milk	28c
Skim milk	22½c
Skim milk	25c
Skim milk	23½c
Skim milk	27½c

These are relative values and are, I believe, quite near corect. Of course much depends upon the quantities fed at one time. The less milk fed to an animal at a feeding the greater its value. To get the highest value from skim milk in hog feeding, not more than 5 to 8 pounds should be fed to a single animal per day, and calves, too, are usually fed too much milk and not enough of grain or meal.—J. A. M. in Hoards Dairyman.

TEAT AMPUTATION.

I wanted to know, so I tried it. Had a calf come that had seven teats. Two were as closely connected as two fingers. I could see trouble ahead if I let that pass, so I took curved surgical scissors and cut one off close up. The calf was only a day or so old then.

I am milking that calf—now a cow—and find the experiment satisfactory. I regret that I did not cut off the other two supernumeraries. Leak? Why no, it healed shut smooth.

I believe all extras should be cut off when the calf is little. I used to milk a cow that had a little stub half way down the regular teat and it leaked right in the palm at every squeeze. I think cutting that would have healed it shut.—Kimball's Dairy Farmer.

A Persian "Fat Tail" Sheep.—There are but very few of this peculiar breed in this country, the greater number of them being owned by C. P. Bailey of San Jose. The peculiarity of the breed is in the monstrous tail, a mass of fat similar to the hump of the camel. This sheep can go for a long time without water, thus are fitted to pasture when water is short. Its principal value is as a mutton producer.

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ONCE USED ALWAYS USED

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

ODDS, ENDS AND QUERIES.

In my last I spoke of little houses to hold twenty-five or thirty chicks when they are ready to leave the brooder. These little weaning houses, or colony houses, can be very cheaply and easily constructed out of a dry goods box. Get the largest you can, about three feet square or four by three. There are two ways of making them. Take the lid off and use that for the floor. At one side cut out nearly the whole side and cover the hole with half inch woven wire; this is to give free ventilation and yet protect the chickens from cats, rats, etc. At one side make a little trap door for the chicks, also make a set of perches, a small frame which can have the perches nailed on it about eight or ten inches apart. This little frame to be placed on the wooden floor and the box put over it. Lift off or turn back the box to clean the floor.

Or another way is to set the dry goods box on little legs, by nailing a cleat on each corner for it to stand on, hinge the lid on at the lower edge of one side, so as to form a runway up into the box. Hang the perches on wires from the roof. Saw out one side and cover the hole with half inch mesh wire, turning this side to the west or away from the night breeze. The hinges on the side which lets down can be made of leather (an old shoe cut up) or of canvas. This side must be hooked up at night. Keep these little houses well painted with crude oil or well whitewashed and occasionally painted inside with lice killer, and you will have no trouble with lice or roup. Dry goods boxes cost from twenty to thirty cents and are tongue and grooved and will shed the rain if painted. By having the side away from the breeze open the chicks will be healthy and not likely to take cold. Colds usually come from the chicks being over crowded, getting too warm at night and chilled in the cool, foggy mornings.

* * *

The reports from the east indicate that the hatches have been poor and nearly a month later than usual, owing to the bad weather. Also the fertility this year seems to have been very discouraging, and some of the scientists are trying to discover the reasons for this. Some good poultry men think it is on account of the forcing for eggs, the stimulating food, and the artificial life of the fowls. This may be the case in the east, and I think there the cold weather has much to do with it, also the lack of green grass.

In California the hatches have been fairly good, and the prospects for a big boom in the poultry business in the fall never were brighter. Keep the chicks clean and give them all they will eat, especially all the green food, and don't feed mashes.

* * *

Some years ago the poultry papers were full of recipes of different mashes and how to cook them, and I patiently experimented with them, no one that has not tried it knows what hard work it was. Then I heard of what was called the Sampson method. This was merely mixing all the dry ingredients of the mash together without any water at all and feeding the fowls in troughs in the morning, all they could eat during the whole day, giving green food (clover, alfalfa, lawn clippings, etc.) at noon and grain in the scratching pen at night. I fed the dry mash, as I called it, in open troughs and the hens wasted some by trying to pick out what they preferred, otherwise it did admirably, the hens could not swallow it in a hurry, they had to eat the dry mixture slowly, and drink plenty of water. This method was labor-saving, for it was much lighter work to carry buckets of dry feed without the weight of the water, and when the hens became accustomed to the change they did better, laid more eggs and I became convinced that it was more wholesome for them than the mashes. At this time some of the agents of a prepared food for hens came to see me, and urged me to try their food. I told them I was feeding a mixture of bran, corn meal and oatmeal with ground bone, ground dried blood, charcoal and a little salt, mixed and fed absolutely dry and as my hens were doing exceptionally good work I did not want to change. They begged me to take a sack as a present from them and try it in one pen. It was already mixed and all I had to do was to add some cold water or milk and water. I accepted it, fed one pen with it; at first the hens refused to eat, the laying dropped off one-half, but as I had expected this, knowing how adversely any change affects hens, I kept steadily on starving them to their new food. I gave them an extra supply of green food, and in a short time the molt began and they came through it well. The new food was evidently feather making food, and food that will make feathers will also make eggs, so that I was very much pleased with it, it was a decided saving in trouble to me to have the balanced ration all mixed ready, but otherwise my own mixture was just as good and I knew what was in it. The cost was about the same, or a little in favor of my own mixture.

* * *

I have been asked to give a recipe for "chick feed." Chick feed is made of a great variety of small seeds. It can be bought already mixed at the poultry supply stores. This is a saving of time in the mixing and it is so handy to have it ready mixed in one sack or bin that now I buy mine mixed. They claim that there are from ten to fourteen different kinds of grain, etc., in the chick feed, but wheat and oats must be the foundation and the principal ingredients. If chicks have to eat nothing but one kind of grain let that kind be wheat. Wheat contains the elements of bone, muscle and flesh, but chicks thrive better on a varied diet and the next in value to wheat comes oats. I have tried oats as they are fed to horses for my old hens; they do not like the long, sharp husk. I tried boiling them; this was too much trouble and expense. Then I tried having the oats ground at the mill, husk and all. It seemed as if it was at least two-thirds husk and even in the mash the hens would manage to leave it. I then tried rolled breakfast oats; this was nearly double the price of the common whole oats, but it was every bit of it edible, there was no waste and both hens and chicks like it. So rolled breakfast oats is one of the staples in all my feeds. Oats fed to the parents will give eggs in abundance that will make sturdy chicks. Oats fed to chicks will make large frames on which to put fat, or by feeding oats to the pullets give early and large eggs. I could tell how oatmeal will make calves grow, how the horses come from parents fed on oats, great racing horses come from parents fed on oats, but have not time or space.

* * *

I always add a handful of rolled breakfast oats to the chick feed I buy at the stores, as I think the oats may not be in large enough proportion to the other seeds.

A good chick feed is as follows:

Twenty-five pounds of cracked wheat, twenty-five pounds of steel cut or rolled oats, ten pounds finely cracked corn, ten pounds millet, ten pounds rice, ten pounds pearl barley, ten pounds dried blood, five pounds granulated bone, five pounds granulated charcoal, five pounds chick grit.

I do not approve of much millet because the little seeds are so hard and slippery they slip through the gizzard without being ground up or softened and pass through the bowels and out in the droppings. I do not approve of too much rice as it constipates and it is usually the last grain eaten, showing that the chicks do not like it. A little hemp seed, canary seed and cracked Kaffir corn may be added; also mustard or rape seed. I have found beet seed, turnip seed and red pepper seeds in the boughten chick feed and a little of those will do no harm.

* * *

ANSWERS TO QUESTIONS.

Leaky Lamp.—Will you please tell me through the columns of the Cultivator what makes my incubator lamp leak? The shelf, lamp, burner, and even the bottom of the tin chimney are always saturated with coal oil. The burner is one with a trip or sleeve. It is kept clean, the wick being changed frequently. The flame is kept low, except when the eggs are cooled and turned. There is always an odor of smoke. Can it be prevented? Will it injure the chicks or eggs? No fumes can go directly into the incubator from the lamp but through the atmosphere of the room. The incubator has not done good work, many chicks dying in the shell.—W. F. W., Berros.

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A. A. Welch, Azusa, Los Angeles Co., Cal.

TAKE NOTICE
When one gets ten to twelve dozens of eggs per day, as I have been getting for about two months past, it counts, but they all go. Just up with orders. Have sold nearly 7000 eggs for hatching purposes, 90% of them W. Minorcas; balance White Rocks and W. Wyandottes. Will continue to fill orders. If eggs from my stock are wanted write to
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Barred Plymouth Rocks (Ringlet Stn)
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are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
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Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

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350 College St., Oakland, Cal.

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Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
LOUIS S. FLETCHER, ANAHEIM, CAL.

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and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is
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LARGE BIRDS AND LAYERS OF LARGE EGGS
Williams Bros., Expert Leghorn Specialists, Box A. FRUITVALE, CAL.

The condition of your lamp is injurious to the chickens and above all is dangerous to your house. Conditions like this are what cause fires from incubator lamps. The cause of it is that the wick is too large, probably too thick for the burner; also there may not be air enough inside the lamp. First make a hole with a small nail in the cap of the screw where you pour in the oil, then examine the tube of your burner; it may have been pinched together too close, and then write to the incubator maker enclosing 50 cents and order a new burner right away. It is dangerous to delay. Of course, I suppose you have not any hole in the lamp round the burner. When you write for a new burner you had better add 10 cents for a few wicks of the proper size. You should put in a new wick each time you put in new eggs and throw away the old wick. It pays to be very particular in keeping the lamp in order, and you must use the best oil.

ADVERTISE YOUR YARDS.

Do you some day wish to derive enough profit from your poultry to make a very comfortable living? If so, you need to get a move on yourself. Don't sit in the shade waiting for business to grow. It may be something new to you, your only experience in the line of advertising being derived from inserting an ad in the want or for sale columns of your local newspaper.

As a rule large space pays better than small. But yet if you will toot your tooter every month of the year and year in and year out you will soon have a nice business, notwithstanding that you probably used only one inch of space each issue. But you kept everlastingly at it and there is where you made progress for the "stick-to-a-tiveness" is the main thing in poultry advertising.

If you contemplate taking out space and are a new recruit just drop the editor a line, place confidence in him and describe to him the full situation and he will take pleasure in giving you personal and reliable advice. Do not think the rates are too high; true enough they may be for the man who expects to advertise one month a year for the reason that the regular advertiser has won the confidence of the readers while the occasional advertiser has it to win, again let me advise you to advertise in winter, spring and fall.—Farmers' Record.

PERFECT WHITE ROCK PLUMAGE.

At the 1904 Kansas City show a Mr. Hall of Nebraska showed a White Plymouth Rock hen which was given an official score of 97½ points. After she was discovered, Judge Owens passed her around to Judges Rhodes, Meyers, McClave and Southard, all of whom passed on her at the same score. No cut was given her for color in any section except legs and toes. Later, at the Kansas state show, Topeka, the same hen was scored again by Russell, Rhodes and Savage, the same score being again given officially. This will interest many breeders and fanciers of white fowls, as it is the first time that any bird of this color has been pased as perfect in color of plumage and given an official score so high under numerous judges and at different exhibitions.—American Poultry Journal.

Squabs will increase in popularity as a table fowl as wild game disappears.

PURE AIR OF FIRST IMPORTANCE.

In rearing chicks pure air is a very important factor that seldom gets due recognition. Cheap as it is and necessary for the vital processes concerned in maintaining and developing all forms of energy, it is not unusual to find brooder houses with no provision for anywhere near an adequate supply. Brooder stoves and heaters are burning out what little oxygen there is, and owners and managers are wildly endeavoring to figure out some intricately balanced ration to reduce the frightful mortality. Provide plenty of good air under the hovers and wherever else there is a chick, and the science of feeding will be wonderfully simplified.

POULTRY FOR THE MARKET.

Before dressing poultry it should be well fed and watered and then kept twenty-four hours without feed previous to killing, When stock is well watered it looks brighter and adds to its appearance. Full crops injure the appearance and hurt the sale of the poultry. Never kill poultry by wringing the neck of the fowl. Bleed the bird in the mouth, leave the heads and feet on, and do not remove the intestines or crops. In scalding chickens the water should be as near the boiling point as possible without boiling. Hold the bird by the legs and head and immerse, move up and down three times. The feathers and pinfeathers should be removed immediately without breaking the skin. Then plump the bird by dipping it for ten seconds in water nearly or quite boiling, and immediately after into cold water. Hang it in a cool place until the animal heat is entirely out of the body.

To drypick chickens properly, the work should be done while the chickens are bleeding. Do not wait until the bodies get cold. In dressing turkeys, observe the same rules as in dressing chickens, except that turkeys should be drypicked, as they command a better price than when scalded. Ducks and geese should be scalded in the same temperature of water as other poultry, but it requires more time for the water to penetrate and loosen the feathers. It is sometimes necessary to wrap the carcass in a piece of old canvas or burlap for a few minutes and allow it to steam. Do not dry-pick geese and ducks before killing for the purpose of saving the feathers, as it causes the skin to become very lumpy and inflamed and is a great injury to the sale of the stock Do not singe the bodies for the purpose of removing the down. Poultry can be shipped in any kind of packages, either barrels or boxes. The appearance of the poultry has more to do with the sale of it than the kind of packages in which it is shipped.—American Cultivator.

COMBINED FRUIT AND POULTRY CULTURE.

Some time since Henry Berrar, Judge of poultry at the State Fair for many years, as well as numberless other shows, wrote regarding poultry culture in orchard, and it was printed in the San Jose Mercury. It has many excellent ideas, so we reprint.

Our orchardists are gradually awakening to the importance of combined fruit and poultry culture. In addition to the valuable service rendered in ridding the orchard of insects, the fowls are a never failing source of revenue.

Poultry distributed throughout an orchard on the colony plan thrive well and yield a large income in proportion to the expense.

At times when the sale of fruit is slow and the returns disappointing. the busy hen offers relief and assistance when all other resources fail, by furnishing a product which always commands "ready cash."

A visit to Santa Clara valley will disclose many orchards in which fowls are kept to destroy the bugs and worms, so detrimental to successful fruit culture.

As an instance of the benefits derived from combining these two industries, I respectfully call attention to the fact that in orchards thus protected the canker worm has been kept in check, while in neighboring orchards devoid of fowls, great expenditures of time and money have failed to accomplish as good results.

With all the advantages to be derived from keeping poultry in the orchard, but few objections can be waged against the proposition and many of these are without foundation in fact. With the exception of prune orchards during the ripening of the fruit the fowls have not been found to be of any disadvantage.

In the peach and apricot orchard they do not damage the fruit when ripening, but in the prune orchard it may be found necessary to confine the fowls during the dropping of the prunes.

In selecting fowls for the orchard probably no other class will prove more serviceable and cause less damage than the Asiatics, as the varieties included in this class do not fly high, hence, they cannot fly into the trees, and cause damage while the fruit is ripening.

All of the orchardists of this State are capable of supporting a fine flock of fowls, and no orchard will be without them when our orchardists become fully aware of the advantage and profits resulting from the combination of these industries.

Insect powder should be dusted on a setting hen at least once each week.

Hens are the best breeders, while pullets excel in the number of eggs laid.

Get young chickens out of small coops as soon as possible and encourage them to go on perches at an early age. Keep them growing and do not crowd them in the hen house.—Farm and Ranch.

Soured table scraps are not good for poultry.

Regularity is the secret of success in poultry raising.

American hens lay on an average 42,000,000 eggs a day.

Don't feed too much millet to fowls as it causes loose bowels.

Get acquainted with your poultry, in other words, have them gentle.

Eggs can be relied upon as being fertile in a week or ten days from the time a cock is put with the hens.

WHITE PLYMOUTH ROCK
Egg at $1.50 per 15.
Circular Free.
CHAS. T. YOUNGKEN
151 E. Avenue 55 Los Angeles, Cal

NATURAL HEN
Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artifically than any other book published. 16-page circular free
F. S. LOW & CO., PETALUMA, CAL.
Manufacturing Agents for Pacific Coast States

The West Coast Stock Food Co.
Would like any one who reads this paper that is interested in poultry or other live stock, to send for our booklet "How to Make Your Live Stock Pay", and for our recipe, guaranteed to make hens lay.
WEST COAST STOCK FOOD CO.,
PASADENA, CAL.

Golden Laced Wyandottes
Eggs of Ideal Strain. 15 Eggs, $1.00
Mrs. Frank Wood, R.F.D.2, Compton, Cal.

Eggs for Hatching
—FROM—
PURE BRED WHITE LEGHORNS
$1 00 per 13—$4.00 per 100
JACOB KREGER
Route 1 - Anaheim, Cal.

Black MINORCAS White
BIG WHITE EGGS
80 to 90 per cent fertile; 75 per cent guaranteed. White Minorcas $1.50 per 14, Black Minorcas $1.00 per 14; $6.00 per 100.
CHICKS FOR SALE AT 15 CENTS EACH
MRS. F. T. HUNGERFORD, "Willard" Poultry Yards
202 S. Grand Ave. Home Phone 3534
Los Angeles, Cal.

Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
757 N. LAKE AVE., PASADENA, CAL.

EGGS FOR HATCHING
From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
T. E. Mills - Lordsburg, Cal.

There May be Other Chick Feeds, but People Do Not Want Them
I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.
The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.
Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.
GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

POULTRY YARD NOTES.

The market weight for broilers is about three pounds per pair.

Don't carry poultry around by the legs with their heads hanging down.

Poultry raising, conducted as a business, on strictly business principles, will result in a good profit.

Too many people start in the poultry business about where they should be after three or more years experience. Money will buy many things, but not experience.

Regularity in the care of poultry pays. System is always a source of economy.

A barrel covered with brush makes an ideal nest for turkeys. Have both heads of the barrel out. If the turkey hen sits there, see that a fine screen is put up nights to keep away night-prowling enemies.

Rape makes excellent green food to give to the yarded fowls. Plant a few rows of rape for the fowls.

Sunflowers can be grown in out-of-the-way places. The seed are good for the poultry and are said to put a gloss on the plumage.

Cornmeal mixed with cold water into a "dough" is not a good feed for young chicks. In warm weather it will swell, heat and sour in the craw before it can be digested, causing indigestion and bowel troubles.

Feed the young chicks the first week or two on clean feeding boards. First scatter a little clean sand or sharp grit, then scatter the food over the grit.

If you use small yards for the hen and brood—that is, a lath or wire run—move to fresh land every other day.

Keep the drinking water vessels clean and out of the sun.

Arrange so the chicks can get in shady places at will.

Feed early and late should be the rule with growing chicks.

Whitewashing the window panes of the henhouse in summer will keep out much heat.

American bred hens led all others in the great Australian egg-laying contests. There is talk of a similar contest being inaugurated in this country and all foreign countries being invited to send competing hens.

A fertile egg generates heat, an infertile egg does not. Do not, therefore, let thermometer lie on latter in incubator. Better use two or three thermometers as checks on each other. The clear, infertile eggs when thoroughly cooked, make good poultry food.

Young geese are not good breeders.

Goose eggs do not hatch well when shipped quite a distance.

Best results are not obtained by permitting poultry to roost in trees.

Pure refined charcoal is one of the best disinfectants for the poultry yard.

Young ducks should be kept away from swimming water until they are well featherd.

A goose yields about $1 a year in feathers, the market price being about 40 or 50 cents per pound.

Soft shelled eggs are seldom found where hens are supplied with cracked bone or small bits of oyster shells.

The government census for 1904 gave the following poultry figures for the United States: Chickens and guinea hens, 333,598,085; turkeys, 6,599,367; geese, 5,676,863; and ducks, 4,807,358. Aggregate values of poultry raised in 1899, $136,891,877.

Prudence yields to circumstances, folly quarrels with it, pride defies it, wisdom uses it, and genius controls it. —Blackie.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

Is a good book, well worth the subscription price. Every person handling chickens will get valuable pointers by reading this book, which tells in a short, concise, practical manner the best method of raising and marketing chickens and eggs. Sent postpaid to any address for $1.25.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

POULTRY AT THE WORLD'S FAIR.

The Committee of the American Poultry Association appointed to look after the receiving, cooping, feed, exhibition and return of the ten thousand birds expected at the Universal Exposition at St. Louis next fall report satisfactory progress. The gentlemen composing the Committee are noted for their patriotic devotion to the best interests of the poultry industry and can be depended upon to wisely and economically discharge the duties assigned them by the American Poultry Association.

THE FARMER AND THE BULL.

With a quaint accent and bucolic gesture, Irving Batcheller (author of "D'ri and I" and other well-known sketches of country life in America) told a story at the last dinner of the Dartmouth Club, which was the masterpiece of the evening for brevity.

An old farmer was hunting with Batcheller. He was taciturn and monosyllabic. Batcheller tried in a hundred ways to make him say more than ten words at a stretch. This is what happened at the final attempt:

"Did you ever have any experience with an angry bull, Mr. Smith?"

Silence for a minute.

"No."

Five minutes' silence, succeeded by "Did once. The bull ran."

Batcheller remained silent, but looked a question for details.

Another long silence.

"So did I. Had the bull's tail."

In the silence that followed the two men saw and shot a brace of birds. Batcheller's bird had no sooner fallen to the ground than the farmer said:

"Bull ran side of a tree."

"So? What happened?"

After ten minutes:

"I ran t'other side. Had his tail."

"Well, what then?"

There was a full half-hour's pause, and the two men were in sight of home when the agriculturist said, with an effort:

"Had more of the tail than the darned bull had."—O. N. Y. News.

The United States exported $22,951,805 worth of agricultural implements last year.

The value of cattle imported into the United States in 1903 was $644,769; of horses, $1,472,420; of sheep, $853,413, and all other animals $714,487, a total of $3,685,089.

Cultivate deep until the roots of the corn begin to extend beyond the hills; then shallow cultivation is best. The old-time hilling of corn is not now followed by the best corngrowers.

HATCH IN SEASON—NOW

Selected Eggs, Guaranteed First-Class, $1.50 per Setting of 13

S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS

Eleanore Poultry Ranch

1½ Miles East of Glendale — P. O. Address, Garvanza

Incubator Chicks Hatched to Order

NO MORE LICE
after using
PRUSSIAN LICE KILLER

NO SICK CHICKS
when you feed
CHAMBERLAIN'S CHICK FEED

PLENTY OF EGGS
by feeding
DARLING'S BEEF SCRAPS

DISTRIBUTING AGENTS

GERMAIN SEED CO. 326-330 S. MAIN ST. LOS ANGELES

AMERICAN WHITE PLYMOUTH ROCK CLUB * MEMBER *

Winning White Plymouth Rocks

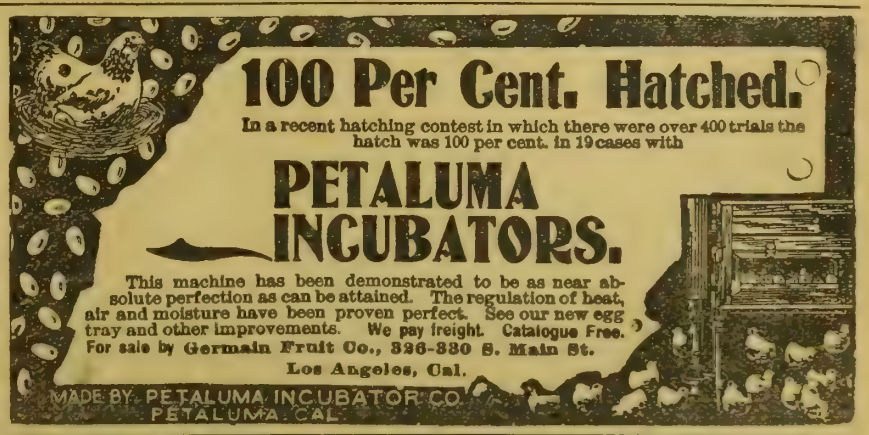
Three silver cups and 24 prizes Eggs, $2 for thirteen

Indian Runner Ducks

Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders

T. FRANK ANDERSON, HOLLYWOOD, CAL.

SUCCESSOR TO MRS. A. BASLEY


100 Per Cent. Hatched.
In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St.
Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO.
PETALUMA, CAL.

Emery's Pure Meat Meal

Don't believe all we say, but just enough to buy our Poultry Foods

Ask your nearest dealer for them and take no imitations.

Emery's "B. B. & B."

N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

SAVE THE CHICKS

Peerless Chick Feed is the best balanced ration of pure, clean seeds, grains, meat meal, charcoal and grit known to the poultry breeders. The benefit derived by its use is marvelous, and is endorsed by all who have tried it. Prices: 100-lb. bag, $4.00; 50-lb. bag, $2.00; 24-lb. bag, $1.00; 5-lb. package, 25c.

HENRY ALBERS, 31 S. Main St., Los Angeles

The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART .XI

Illustrations from T. C. Vestal's Poultry Farms, one of Petaluma's Foremost Poultrymen.

One of the most successful and well known poultrymen who run the poultry raising business on a large scale is Mr. T. C. Vestal. Mr. Vestal owns two large poultry farms situated in Two Rock Valley about 8 miles from Petaluma.

In the Two Rock Valley all the poultry farms are large farms and all keep from 1000 to 4000 laying hens or more, and nearly all own their own land, Mr. Vestal owns two of these farms, one is a poultry and dairy farm combined and one is all poultry.

Mr. Vestal now lives on the 350 acre dairy and poultry farm which was formerly the late Hugh Gaston home. The residence on this place is a beautiful mansion and one of the largest and best in that locality. There is a large creamery on the place and they milk about 150 cows.

Bird's eye view of T. C. Vestals Poultry and Dairy Farm showing residence at the left of the picture.

The other farm which is also owned by Mr. Vestal, is devoted entirely to poultry raising, and is all very nicely equipped. The buildings are all painted white and the attendants keep them well cleaned and everything in good order. It is a model, up-to-date poultry plant and it is pleasing to the eye. Everything is fixed so as to be handy and it proves a profitable investment for Mr. Vestal. In fact, Mr. Vestal is looked upon as the most successful poultryman and in the winter time when other people's hens are not laying, Mr. Vestal just brings in the eggs by the wagon load. (Good feed is what does it.) Mr. Vestal is very thorough in all his methods and does not do things by halves. When Mr. Vestal sprays the poultry houses he gets two hundred gallons or more of Coulson's Phenolene (a lice killer and disinfectant), made by A. R. Coulson Co., of Petaluma. Price 5 gallons cans, $1.25. This is put into a big barrel force spray pump, which is loaded on a big wagon and with a 40 foot hose this liquid is thoroughly sprayed inside and outside of all the poultry buildings and you do not find any lice on this place.

Mr. Vestal is a gentleman who knows the value of a good feed and his laying hens have consumed many sacks of Coulson's Balanced Ration Egg Food. There is no money in keeping hens and getting next to nothing in eggs. It depends on what you feed whether you get eggs by the basketful or the handful. Feed your hens every day on Coulson's Balanced Ration Egg Food and watch the increase; soon you will be gathering eggs by the basketful.

Tnere are many poultrymen who know that Coulson's Egg Food is good feed and yet they are not enterprising enough to make use of it. The reason why some men do not accomplish more is because they do not try to accomplish more. We do not claim that Coulson's Egg Food is the only balanced ration in the world, but we do claim that a ton of Coulson's Egg Food will produce more eggs than a ton of any other kind of feed and we can prove it. Thus, by feeding Coulson's Egg Food, you produce eggs at a minimum cost. Egg production is influenced by the feed and when you want "QUALITY EGGS" then get them from hens fed on quality food, (Coulson's Egg Food). The men who supply quality eggs know the wisdom and importance of feeding their hens with good, wholesome health giving foods (Coulson's Egg Food) and are rewarded with the best eggs thereby. If you want some good tasting eggs get them from poultrymen who feed their hens Coulson's Egg Food.

This feed also makes better layers and more of them and by feeding Coulson's Egg Food now you are getting the hens in condition for An Early Molt without hindrance to egg production.

Price of Coulson's Egg Food at Petaluma is $34.50 a ton. Price in other towns will be more according to freight.

Remember, it is a concentrated feed and one ton contains more nutriment than two tons of ordinary feed.

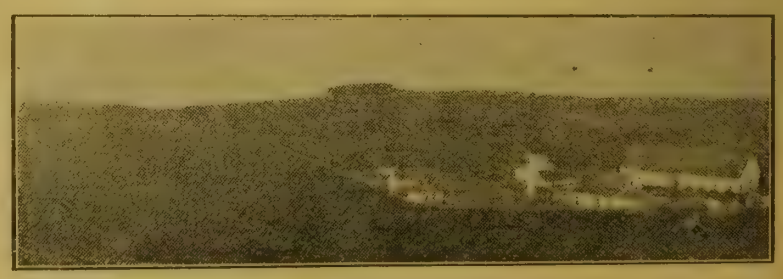
Manufacteured by A. R. Coulson Co., Petaluma, Cal.

(To be continued.)

Several colonies of White Leghorn hens on T. C. Vestal's Poultry Farm fed on Coulson's Balanced Ration EggFood. Mr. Vestal gets over 2,000 eggs in a day. Good hens want good feed; feed Coulson's Egg and Feather Food.

Another view of one of T. C. Vestal's Poultry Farms showing residence. Mr. Vestal has about 3,000 laying hens.

Bird'seye view of one of T. C. Vestal's Poultry Farms, and to the left is G. W. Gaston's Poultry Farm, where 800 sacks a year of Coulson's Egg Food is fed. Feed your hens Coulson'sEgg and Feather Food.



Dairy and Poultry Buildings on T. C. Vestals Farm.

THE A. R. COULSON CO.

PETALUMA - CALIFORNIA

MAKING A BULB BED.

It is early yet to make the fall bulb bed, but time to think of it, so we clip a few valuable suggestion from American Gardening:

Bulbs should not come in direct contact with the stable fertilizer; it should be down below them where the feeding roots that grow from the bulb may find it when the bulb is at work developing the leaves and flowers. You know that all the leaves and flowers were made the year before, and the bulb simply holds them until the new roots have formed. No kind of treatment will make a bulb produce more flowers than were formed in the year it grew (last year); but the better the treatment, the larger and better the flowers will be.

If I wanted to make a bulb bed, I should choose, if possible, a sandy soil and throw out the top soil to the depth of six inches Then I should put into the bottom of the bed about two inches of well rotted manure and spade it into the soil. Then I should throw back half of the top soil, level it off neatly, set the bulbs firmly on this bed and then cover them with the remainder of the soil; in this way you will have the bulbs from three to four inches below the surface. It is dark down there, and in the fall months the top of the ground is cooler than at a depth of five or six inches and the top of the bulb will not grow, while the bottom will send out roots, to push out the leaves and flowers next spring.

Perhaps many of you cannot find a sandy place for your beds; if not, make your beds as has been told, leaving the stones in the bottom of the bed for drainage. Then, you are ready to set the bulb, place a large handful of sand where your bulb is to go and set your bulb on it; this will keep the water from standing around the bulb. Very good results may be had on heavy soil by this method.

What kind of bulbs shall we put into these beds? Select hyacinths, tulips, narcissus or daffodils, with snowdrops, or crocuses of various colors, around the edge.

If you use hyacinths you can have blue, or many shades of either color. Of tulips you can have stars or ribbons of yellow, white or crimson, or almost any color except true blue. In narcissus, yellow, sulphur and white are the colors. The little crocuses come in yellow, white, blue, white and striped colors, and are in bloom and gone before the large flowers take your attention.

Suppose we want a bed of red, white and blue hyacinths, and make it six feet in diameter. How many bulbs would you want? Now, hyacinths should be planted six inches apart each way, and the outside row should be at least three inches from the edge of the bed. You will want a little over one hundred bulbs.

If you want a bed of tulips, they should be planted four or five inches apart instead of six inches, so you will need more bulbs; but they are cheaper than hyacinths. The narcissus bulbs being still smaller than tulips, may be planted three inches apart; and the little crocuses, one of the first flowers of spring, should touch one another. as should also the snowdrop.

* * *

A HANDSOME JAPANESE MAPLE.

A more attractive feature for any lawn than a well developed specimen of the cut-leaved Japanese blood-leaved maple could not be secured. Its beauty appeals to every one, and its shapely, compact habit of growth adapts it for general use on either large or small grounds.

Its style is both pretty and uncommon, the branches showing a tendency to gracefully sweep toward the ground; and the foliage making a brilliant display of a bright, blood-red tint, which gradually shades out to a green as the heat of summer grows more intense. The richness of color returns as the cooler days of autumn approach. The leaves are finely cut and fern-like in appearance. In form this variety is a broad as it is tall. Its maximum height is from five to seven feet, and when of this size is very old and of immense value. It is hardy.

Nursery grown specimens of this plant will give sure results. This and other Japan maples make excellent lawn specimens as individuals—when their slow growth and small maximum size are great advantages—or they may be massed in moderately sized groups.—American Gardening.

* * *

HOW TO GET RID OF ANTS.

Ant colonies in the garden or lawn may be destroyed as follows:

Secure a tub, pail, or airtight covering of any kind large enough to entirely cover the ant hill. Pour over the hill from one to three tablespoonfuls of carbon bisulphid, and cover quickly with the tub. Not an ant present at the time of the application will survive. Those away from home will return, but rarely rebuild the colony. It must not be forgotten for an instant that carbon bisulphid is highly inflammable. A lighted cigar or pipe may be sufficient to ignite it. The fumes are heavier than air, and will therefore settle to the very bottom of the ant hill.

A correspondent recommends using strongly poisoned sugar spread about the ant hill. As ants are very fond of sugar they will quickly gorge themselves to their undoing.

CURING DECIDUOUS FRUITS.

(Continued from first page.)

a sheet spread upon the ground, but must necessarily be cut soon afterward. The cut must be clean and entirely around the fruit. The sulphuring should follow as soon as possible, meantime keeping fruit from the direct sunlight. It should be four or more hours according to ripeness. Hard, green fruit should not be dried, but if it is, requires a longer time for sulphuring.

Peaches must be picked by hand. Pitting may be by machine, but is usually by hand. Trees are like 'cots, a simple proposition. Clings are harder. Large plants have a splitter. Smaller, do hand work, cutting clean around pit, then with a twist removing one half, then scooping out the other half with a spoon-shaped knife. If a peeled product is desired, knives with guard to prevent too deep cutting are best. The cost, also the shrinkage of the peeled fruit, is far greater. Likewise the price also the chances of early sale are far greater. For home use every grower should dry some peeled peaches. They are fine.

After sulphuring, place trays on racks in yard. Three days may answer two weeks may be required, according to whether it is 'cots or peaches, and as to whether it be dry or foggy. Don't dry till fruit "rattles". Mr. Neff said in an article in last years' Cultivator:

"As soon as the fruit will bear moving without losing its shape it should be loosened from the trays, and all the fruit of five trays placed on one tray. This can be done readily by taking the trays in groups of five and turning two from each side into the middle tray. This tray should then be covered with an inverted tray, and allowed to stand until all the fruit is cured. This can be determined by handling the fruit, which should be soft and pliable to the touch, but not sticky..

After the fruit is properly cured it should be run through a grader, and each size placed in a separate pile in a tight room having screens over the ventilator openings to prevent the entrance of moths. It is best to fumigate the storage room each season before using."

Grading, processing and picking are more the work of the professional and need not be treated here.

Pears are usually halved, cores scooped out, sulphured, then handled similar to peaches. With pears, we have seen bees so persistent that covering the whole yard with mosquito netting, was a necessity. The bees simply carried off all but the skin.

Nectarines, plums and other fruits are handled much the same. Nectarines make a handsome fruit, but very sour and a poor seller. Prunes may make another story another day.

Trade Mark for West Coast Chick Feed.

The above cut is no fancy sketch but is made from a photograph taken of birds that have been, and are being fed on West Coast Stock Food Co.'s goods. The large bird took first prize at Los Angeles Show, December, 1903. His sire took first at Los Angeles Show, 1901, as cock, and first at Pasadena Show, 1900, as cockerel. They have all been raised on West Coast Stock Food Co.'s foods.

FEED WEST COAST CHICK FEED

And raise prize winners. West Coast Chick Feed makes it possible to successfully raise little chicks, turkeys and ducks. They like it. It keeps them healthy. Prevent disease and promote health and growth by feeding West Coast Chick Feed. It is all feed, no waste; cheap in price; best in quality.

WEST COAST
Stock Food
Poultry Tonic
Egg Food
Chick Food
Lice Killer
and
Kilamite

They are guaranteed to be as represented. Do not be deceived into using any other kind. All are made only by

THE WEST COAST STOCK FOOD CO.
PASADENA, CALIFORNIA
Call for and demand West Coast Stock Food Company's goods.

THE MAN AND WOMAN OF IT.

"My vase is broken," she trembling said;
The tears fell fast and she drooped her head.
"With tender touch I will mend it true,
And make believe it's as good as new."

"My vase is broken," he calmly said;
"But I'll buy another one instead;
One just as pretty and just as good,
And put it where the old one stood."
—Mabel Porter Pitts in Sunset Magazine.

ALL OR NOTHING.

Happy the man whose far remove
From business and the giddy throng
Fits him in the paternal groove
Unquestioning to glide along.
Apart from the struggle and from strife,
Content to live by labor's fruits
And wander down the vale of life
In gingham shirt and cowhide boots.

He, too, is blessed who, from within,
By strong and lasting impulse stirred,
Faces the turmoil and the din
Of rushing life; when hope deferred
But more incites; who ever strives,
And wants, and works, and waits, until
The multitude of other lives
Pay glorious tribute to his will.

But he who, greedy of renown,
Is too tenacious of his ease,
Alas for him! Nor busy town
Nor country with his mood agrees;
Eager to reap, but loath to sow,
He longs monstrari digito,
And looking on with envious eyes
Lives restless and obscurely dies.

Malleable Iron.

Dr. Fosdick thrust his hands into his pockets and stood looking down at the girl with an odd mixture of determination and entreaty in his expression. For the first time in his life his tongue had bungled and his words had but haltingly expressed the meaning he had intended. This had irritated him extremely, and he stood very straight and dignified, trying by magnificient outward calm to atone for his recent nervousness.

The girl's averted face was undeniably pretty, and just now a deep flush lent it additional charm. She had known for a long time that, sooner or later, this moment would come. She had prepared herself for it; yet now that it was here she had suddenly weakened into irresolution. The doctor watched her keenly.

At length she turned in her chair and her eyes met his squarely.

"There are many reasons, Bob," she said softly, "why I should say 'yes.'"

The doctor permitted himself a smile of encouragement and satisfaction.

"And there are more, I think, why I should say 'no,'" she pursued.

"Katherine!" he was startled into expostulating.

"I am going to be perfectly frank with you," she said.

"Do," he urged tersely.

"I shan't say that I don't care for you. It isn't that! Indeed, I scarcely know how to make you understand just what it is that makes me hesitate to marry you. I honor you and I trust you, but I think there is too much iron in your makeup. If there were some foibles, some little weakness in you, you would be more—more human. You bend things to your will. I think I'm afraid of you."

The doctor's chin went up and he laughted in evident relief.

"Don't, please," said the girl reproachfully. "It's serious."

"I know, dear; I know," said the doctor hastily; 'but knowing countless weak points in myself as I do, it seems absurd. "I'll develop some of these immediately."

"I should detect shams at once," she warned him.

The young man's face became grave.

"I can assure you I'm not a tyrant," he said earnestly. "Mayn't I have my answer now?"

"I'll give you an answer in a month," said the girl, "but please—please don't be too hopeful."

* * *

The month was nearly up. Katherine Thorpe had gone over the matter countless times—sometimes thoughtfully, sometimes wistfully, sometimes tearfully. But always her mind had been shaping itself toward the inevitable. She could never mary Bob Fosdick. Love him? She could not bind herself to the fact that she did; but with a feeling akin to acute terror she recognized that in his larger, stronger individuality her own would be crushed and helpless.

She was going to a matinee that March afternoon with the Brewers, and just a trifle downcast, she sat quite alone in the dim front parlor of the Brewer house, while the two Brewer girls—always procrastinating—were upstairs arraying themselves.

The big folding doors between the front and back parlors were drawn together, and from behind them came a piping, childish voice and weak trebles of laughter. It was evident that little Ted Brewer, with his poor, twisted spine, was in there enjoying the afternoon sun.

Presently the doorbell jangled and someone was admitted—someone who walked with firm, swift steps down the hall to the back parlor. Katherine knew those steps, and her breath quickened. She heard the door from the hall into the back parlor opened; heard little Ted's cheerful "Hello! Doc," and leaned forward eagerly in her chair to listen.

"Hello! old chap," she heard Bob Fosdick's voice say. "Sunning?"

"Sure," came Ted's piping voice. "What you got in the bag?"

"Lots of things," was the noncommittal reply.

"Any plaster of Paris?"

"Why, yes," said Fosdick. "We've got to change the cast this afternoon, you know, laddie."

"No, sir-ee. Not this afternoon," said Ted with a force that was ridiculous in the piping voice.

"Oh, I say, old shap," began Fosdick in conciliatory tones.

"Not to-day," said the small voice flatly.

Evidently the doctor went about his prepartions, for presently the small voice advised:

"Better put 'em back in the bag, Doc. Tomorrow you can string me up by the arms, if you want to, but not to-day."

"Why not to-day?" From the doctor's voice it was plain he was losing ground.

"Too nice lying in the sun here," Ted explained. " It may rain to-morrow."

"Suppose it doesn't?" the doctor suggested.

"We'll wait and see," said Ted.

A moment later the authoritative pipe of a voice commanded:

"You can't go yet, Doc. You've got to read to me."

"I'll ask your mother to read to you, old chap."

"You read," the child commanded.

"You see, I'm awfully busy this afternoon," Fosdick began.

"The bird book is on the table by the fireplace," said Ted.

The point was carried. Katherine heard Fosdick draw up a chair and begin to read aloud. Occasionally he paused, for what reason was quite evident, for with each break in the reading Ted's voice affirmed: "I'm awake all right. Go on, Doc."

After a time the doctor paused and there was no response. Katherine heard him steal cautiously from the room. In the hall Mrs. Brewer accosted him.

"Is it over?" she asked, in low tones.

"We didn't change the cast to-day," said Fosdick apologetically. "I've been reading to him ever since I came."

Mrs. Brewer laughed softly.

"If we can straighten that spine of his," the doctor went on, "I think the young man will have his share of success in the world. He rules me like a strap, I'll admit."

Mrs. Brewer said something very low to the doctor, and in another moment he entered the parlor.

"I have heard it all," said Katherine, rising to greet him.

Something in her shining eyes set his pulse throbbing.

"Katherine!" he said. "Then—"

"I'm not afraid of you any more," she whispered.—Cincinnati Enquirer.

PURELY A MASCULINE VIEW.

Wife (reading)—Here's an account of a man who hanged himself with his suspenders.

Husband—Married man?

Wife—Yes.

Husband—That acounts for it.

Wife—How does it?

Husband—His buttons were probably all off and he had no other use for suspenders.

HOW TO MAKE AND TO CHANGE THE SICK BED.

Sickness comes at some time, soon or late, to every family, no matter how carefully guarded, but trained nurses are not always at hand. On this account, it is a safe thing for every woman to know just how to prepare and to change a bed for a person too ill to be readily moved.

The best bedstead for use in sickness is of brass or iron, six and a half feet in length, two or two and a half feet in height, and three feet in width.

The mattress should be of hair, as that can be readily cleaned and disinfected. Cotton makes the best material for sheets, as linen is apt to chill. Three sheets should be in use at a time—the upper, the lower and the draw, which is placed directly under the patient. Blankets of good quality make the best covering, with a lightweight counterpane at the top. There should be two large pillows—one of hair and the other of feathers—and as many small pillows as the exigencies of the case require.

If a rubber sheet is necessary, spread it smoothly on the mattress. Put on the lower sheet and pin it into place on the under side of the mattress, so that the patient may not work it up into wrinkles. Fold the draw sheet and pin it across the middle of the bed so that it will extend from the patient's shoulders to well below the hips. Put on the upper sheet, leaving it a little loose for the feet, and long enough to turn over the blankets at the top. The blanket need not be so long as the sheet, but should be long enough to tuck around the patient's neck. The counterpane may be of the same length as the sheet, and left long enough to fold over.

In changing the bed, roll the patient to one side, putting one hand against the shoulder and the other against the hip. Roll the lower sheet up in lengthwise folds against the patient, put on the fresh sheet and the draw sheet, and pin in place. Protect the patient with the upper sheet and roll him over on to the spread-out portion of the clean sheets. Pull the lower sheet

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smooth and pin. Put a clean upper sheet on over the soiled one, tuck in the clean one and remove the soiled one.

It is scarcely necessary to emphasize the fact that in changing the bedding everything should be aired, warmed and at hand, so that there need be no delay.

Double beds make good sick beds, as the patient can sleep on one-half during the day, and the other half at night.

If there is any tendency toward bed sores, make a cushion or use a circular pillow covered with linen or cotton. Pads and cushions of all sorts and sizes may be used to make the patient more comfortable.

Even in extreme illness, physicians now decree that bed clothing and garments should be changed every few days, as nothing is more essential to the invigoration and comfort of the invalid.—Cincinnati Enquirer.

HOMELY HINTS.

If a bucket of paint has to be left open, stir it thoroughly, so as to dissolve all the oil, then fill up with water. When the paint is to be used, pour off the water, and the paint will be as fresh as when first opened.

* * *

If a picture has been crushed in the mails or in any other way, dampen the creases, and press with a warm iron.

* * *

Turn your plush lap-robe so that the nap runs down. It will then catch on your clothing, and will not be continually slipping away from you.

Rub roasting-pans with newspaper before putting them away, and they will not rust.

* * *

Instead of pounding the steak in the usual manner, which bruises the fiber and lets the juice escape, soak it for an hour or so in olive oil before cooking. Cook quickly over a brisk fire so that both sides will be well browned (not burned), then move the pan back, so that the inside of the meat may cook more slowly. Melt a lump of butter in two or three table-spoonfuls of good vinegar, and pour over the steak while hot. Lemon-juice with a little water added may be used instead of vinegar. Season with pepper, salt, chopped onion and sage.—Woman's Home Companion.

* * *

Grease stains on leather may be removed by covering the stains with pipe clay. Make the clay into a soft paste with water; allow it to remain on the stains twelve hours or more, then brush it off.

* * *

To Clean a Felt Hat.—Use fuller's earth and water, or when the felt is very dirty, substitute turpentine for the water. Mix enough of the liquid with the earth to make it like thick cream. With a soft brush rub this on the hat. Let it rest for twenty-four hours, then brush it off the hat.

* * *

Few people know that pineapples in their native country are never sliced, but after peeling they are carefully broken from the core in small pieces with a silver fork. If this way is once tried no one will again injure the fine flavor by cutting across the grain. They should always be so prepared both for table and canning.

To plant a good thought in the mind of a child, so that it will stick and stay and grow, is a greater thing than to put in an enormous wheat crop. Character building is bigger work than building railroads.

RECIPES

Eat Little, but Have That Little Good

ORANGE DISHES.

C. A. G., of Uplands, asks us to give a recipe for orange marmalades, jellies, etc. The first recipe below is one of the finest we have ever known. It was given in the Cultivator nearly a year since and is worth repeating. From this same recipe, marmalade has been put up and sold commercially in a large way.

* * *

Orange Marmalade.—Twelve oranges, two lemons. Slice thin. To each pint of fruit add one quart of water. Let stand twenty-four hours. Then boil all until tender.

To every pint of this, add while boiling, one and one half pounds of cane granulated sugar and boil until transparent. About forty minutes.

It will keep in an open jar, though covered with paraffine is better.

* * *

The following is by Mrs. Rohrer, in the Ladies' Home Journal: Take an equal weight of fine oranges and sugar; allow to each twelve oranges one shaddock, grate the yellow rind from half the oranges; cut them in halves, crosswise; with spoon, take out the pulp, rejecting the seeds, but saving all the juice; add the pulp to the shaddock; add the rind to the pulp. Bring to boiling point, add the sugar, and boil until it seems thick on cooling. Pour at once into tumblers, and cover when cool, with paraffin and paper.

* * *

Orange Pudding: Two large oranges pared and cut in pieces one inch square, put in bottom of pudding dish, pour over them one cup white sugar, then make a plain corn starch pudding without sugar, and pour it over the orange and sugar. Let stand and cool.

* * *

Orange Souffle: Peel and slice six oranges; put in a glass dish a layer of oranges, then one of sugar, and so on until all the orange is used, and let stand two hours; make a soft boiled custard of yolks of three eggs, pint of milk, sugar to taste, with grating of orange peel for flavor, and pour over the oranges, when cool enough not to break dish; beat whites of the eggs to a stiff froth, stir in sugar, and pour over the pudding.

NEW MEANS OF PURIFYING WATER.

The announcement was recently made that in the "Bordeaux mixture," much used in California for spraying fruit trees, the United States Department of Agriculture had discovered a valuable means of purifying water for drinking purposes. Experiments are said to have shown that the mixture destroys the germs of typhoid fever and also clarifies water. This compound of copper sulphate, lime and water, however, is highly poisonous, and if used for the purification of drinking water great caution would be required. No person but a chemist should experiment with it for that purpose.—Sacramento Bee.

Flo.—You don't seem to be at all nervous about going to ask papa for me, she said.

Fred—Oh, no. I've had experience both as an advertising solicitor and an insurance agent. This'll be easy.

If you can't laugh endeavor to amuse others and you wil have benefited mankind.

HINTS ON JELLY MAKING.

The following has in part been given in the Cultivator, but is repeated on account of good points, then mentioned.

To extract the juice, place fruit in the kettle with just enough water to keep from burning, stir often and let remain on the fire until thoroughly scalded; or a better but rather slower method is to place it in a stone jar set within a kettle of tepid water, boil until the fruit is well softened, stirring frequently, and then strain a small quantity at a time through a strong coarse flannel or cotton bag wrung out of hot water, after which let it drain, and squeeze it with the hands as it cools, emptying the bag and rinsing it off each time it is used.

The larger fruits, such as apples and quinces, should be cut in pieces, cores removed if at all defective, water added to just cover them, boil gently until tender, turned into a bag and placed to drain for three or four hours or over night. Make not over two or three pints of jelly at a time, as larger quantities require longer boiling.

As a general rule, allow equal measures, sugar and juice. Boil juice rapidly ten minutes from the first moment of boiling, skim, add sugar, and boil ten minutes longer; or spread the sugar in a large dripping pan, set in the oven, stir often to prevent burning boil the juice just twenty minutes, add the hot sugar, let boil up once, and pour into the jelly glasses immediately, as a thin skin forms over the surface which keeps out the air; cool quickly and set in a dry, cool, dark place.

Jelly should be examined toward the end of summer, and if there are any signs of fermentation, reboil.

Jelly needs more attention in damp, rainy seasons. To test jelly, drop a little in a glass of cold water, and if it immediately falls to the bottom, it is done, or drop in a saucer, and set on ice, or in a cool place; if it does not spread, but remains rounded, it is finished.

Some strain through the bag into the glasses, but this involves waste, and if skimming is carefully done it is not necessary. A little butter or lard rubbed on the outside of glasses or cans will enable one to pour in the boiling fruit or liquid, the first spoon or two slowly, without breaking the glass.

If jelly is not very firm, let stand in the sun covered with window glass or pieces of mosquito netting for a few days. Never attempt to make jelly in damp or cloudy weather if firmness and clearness are desired.

Use a wooden or silver spoon to stir dip with earthen cup, and cook in a porcelain-lined kettle.

Currants and berries should be made up as soon as picked; never let them stand over night.

When ready to put away, cover with pieces of tissue paper cut to fit and closely pressed upon the jelly, and put on the lid or cover with thick paper brushed on the inside with the white of an egg, and turned down on the outside of the glass.

TO MAKE A PERSON HEAR WITH HIS TEETH.

Get him to tightly close his ears with his index finger, hold a watch to his ear and he will be unable to hear the tick. Then let him catch the watch (the portion between the ring and the body of the watch) between his teeth, and the ticking will be distinctly audible.—Woman's Home Companion.

A religious little boy of Chicago never goes to sleep without praying that his soul may be kept throughout the long watches of the night. The other evening, however, he became a little mixed about bedtime. When in his snow-white gown, he made a movement toward the little cot, but was reminded that he had forgotten to say his evening prayers. He quickly knelt at his mother's side and, laying his small head upon his folded hands, began:

"Now I lay me down to sleep,
I pray the Lord my soul to keep."

But there his drowsiness became too much for him. His curly head went down with a bump against his mother's knee, and she, hoping to help him out, softly suggested: "If." He made another effort, and his mother prompted him the second time, he brightened up and finished:

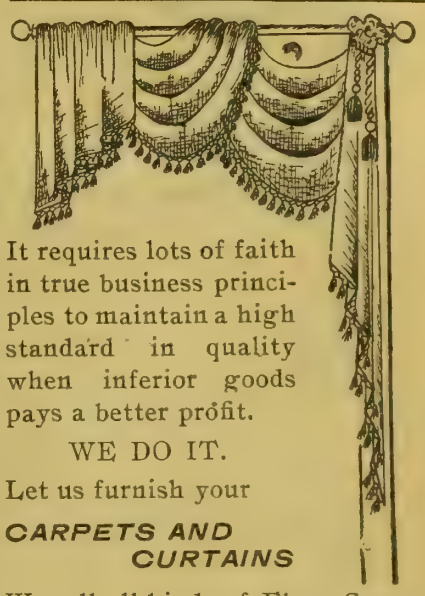
"If he hollers let him go,
Ene, meni, mine mo."

—Chronicle.

Treat children with consideration and remember that they are human.

More care should be taken to make the interior of public school rooms attractive.

Casey—"Oi'l wurk no more for thot mon Dolan." Mrs. Casey: "An' phwy?" Casey: "Shure, 'tis an account av a remark thot he made t' me." Mrs. Casey: "Phwat did he say?" Casey: "Sez he, 'Pat, yer discharged.'"—Judge.



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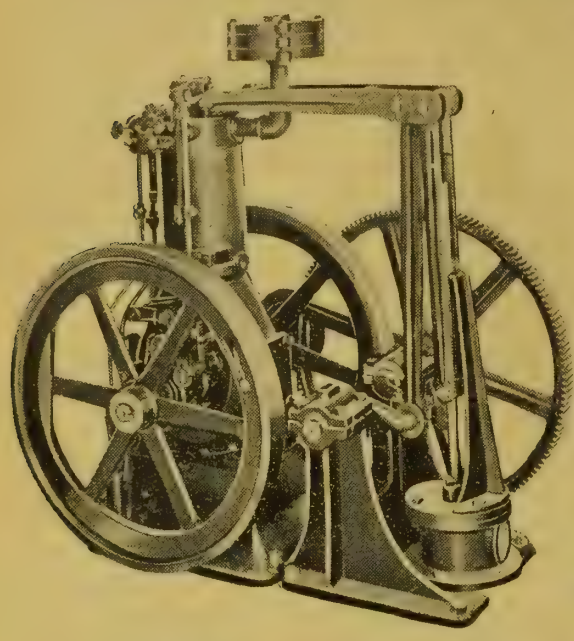

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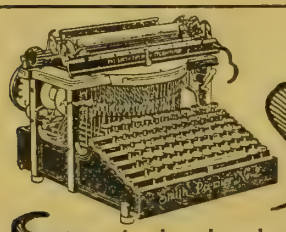

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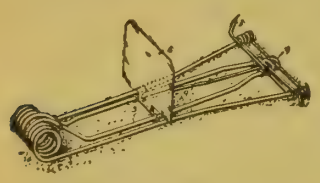

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228 REQUENA STREET - LOS ANGELES, CAL.

Los Angeles Markets.

Los Angeles, June 2, '04.

All local dealers report having done a very good business during the month of May.

The prices on all commodities have been holding at a higher figure this year than at the same time last year. The predictions for the future conditions are not so favorable.

Butter.

All grades continue to come in satisfactory to local dealers.

The supply is reported to be ample for all trade purposes, but no large amounts have accumulated.

The coast receipts are lighter, the butter being drawn toward a little higher market in the north. However the local quotations remain at last weeks prices.

B. of T. Cream, 2-lb roll		45
Valley creamery, fancy..	45	
Coast Creamery		40
Cooking, per lb.		20

Cheese.

There is no change in the quotations of cheese. Best grades hold firm under a fair demand.

Cal. and 3 lb. hand	16
Cal. Downey and Anchor	12
Northern	11
Swiss	19
Imported do	26½

Eggs.

As a result of the warm weather, fresh ranch eggs are coming to market more freely. A large supply of eastern in now being thrown on the market consequently both stocks suffered a decline of 1 cent.

Store, case count	17	18
Fresh ranch	20	21

Poultry.

Broilers, up to 1½ lbs...		15
Broilers, 1½ to 2 lbs.....		17
Fryers, 2 to 2½ lbs.....		20
Young Roosters, 2½ up..		20
Hens, No. 1, per ib	12½	13½
Ducks, per lb	13	14
Turkeys, per lb	16	17
Turkeys, cold storage	22	23

Live Stock.

As yet live stock has underwent no change, but the demand holds good with lighter receipts and slight advance is expected in the near future.

Hogs, per cwt 5 50		5 62½
Prime steers, cwt 3 75		4 25
Cows, cwt 3 00		3 50
Calves, cwt 4 00		5 00
Sheep, ewes, per head..3 00		4 00
Lambs, do 3 00		3 50
Wethers, do 4 25		4 50

Potatoes.

Notwithstanding there is a very good demand for young stocks, all varieties are selling at a low figure.

This is due to there being a large quantity of old goods on hand. One very bad feature is that the new spuds are of an inferior quality and of a very small size.

figure.

River, per cwt	1 50
Oregon, do	1 60
Early Rose, new	1 00
Pinkeye, do	1 00
White	1 00
Nevada Pearls, do	1 50

Vegetables; Mixed.

Nearly all the following varieties suffered a decline this week. Local dealers report large receipts and in many cases the quality is poor. Demand continues good.

Onion, Silver Skin		75
Onion, Red		1 00
Beets, per 100 lbs		1 25
Cabbage, per ton		6 00
Green Peas	02	03
Lettuce, per sack		40
Tomatoes, 25 lb. crate ..		1 00
Carrots, per sack		50
String Beans		03
Wax Beans		04
Chiles, green, per lb		06
Rhubarb		50
Asparagus		06

CITRUS FRUITS; FRESH

Fancy oranges, 126s, bx		2 25
Do, 150s 1 50		
Do, 176s, ...1 25		
Do, 200s, ...1 00		
Standards	50	
Lemons, fancy, per box	1 00	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

The fruit market is some stronger, due to the fact that there is a big demand. It is reported that there is no surplus to speak of on the market.

Pears, Winter Nellis, lb		05
Apricots lb		05
Strawberries	06	07
Loquats		06
Cherries, 10 lb. box	50	75
Bulk cherries	06	07
Gooseberries, 20 lb. box ..		80
Loganberries		10
Watermelons, per doz ...		6 00
Blackberries		08
Cantaloupes, per doz.		1 00

Fruits; Dried.

Apples, evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink 3 75		4 00
Lady Washington, ...3 25		3 40
Limas 4 00		4 15
Small White 3 60		3 65
Garvanza 4 50		4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	07½..	08
Peanuts, California	07½	08

HONEY.

White strain, per lb	07
Light amber, do	06
Comb, water white	15
Do, light amber	13

HAY.

Hay conditions remain about the same as reported last week. New

stock is still being offered in limited quantities. Demand good.

Alfalfa	9 00	10 00
Tame Oat		12 00
Barley hay	8 00	12 00
Wheat hay	10	11

GRAIN.

The tendancy of the local grain market is upward.

Local dealers report that there will be, approximately, about 50,000 sacks harvested this year against 1,000,000 last year.

Those who are fortunate enough to have a fair crop will undoubtedly receive a fancy price.

Oats	1 25	1 30
Wheat	1 40	1 42½
Barley	1 12 1-2	1 13¾
Corn	1 35	1 40

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley	1 25
Bran	1 25
Feed Corn Meal	1 60
Middlings	1 45
Cracked Corn	1 55
Oil Cake Meal	1 85
Chicken Wheat	1 65
Cocoanut Meal	1 50

San Francisco Markets.

San Francisco, June 2, 1904.

Dairy.

Butter remains exactly as last week. The offerings have been liberal, but retail and packers' orders have kept pace with the supply. Quotations are:

BUTTER—Per lb:

Creamery, extras	19
Creamery, good to fancy	18 @18½
Dairy, extra	17 @17½
Dairy, choice	15 @16
Store	14

CHEESE—Per lb:

California Creamery, mild new, extra	10 @11
California Creamery, new mild, choice	8 @ 9
Young America	10 @11½
Eastern, New York Cream, Cheddars and flats, new	15 @16

Eggs and Poultry.

Eggs remain stationary, with buyers preferring "fresh ranch" rather than "store."

EGGS—Per doz:

Ranch, selected large	20
Ranch, good to choice	18
Store	17½

Poultry is coming in from the East in car load lots and finds ready buyers at stiff prices.

Poultry is still quickly picked up on arrival of cars. This is especially true of young stock, while old hens are not so eagerly sought. Local offerings are preferred. Turkeys are somewhat, higher some sales commanding 16c.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $7.50@8.50; Fryers, $5.50@6.50; Broilers, large, $3@4; small, $2@3; Hens, small, $5@5.50; large, $6@7; Ducks, per doz., old, $4.50@5; young, $5@6; Live Turkeys, per lb., 14@15c; Geese, per pair, $1.25@1.75; Goslings, $1.50@2; Pigeons, per doz., old, $1.25@$1.50; young Pigeons, $1.50@1.75; Squabs, $2.50@3.

Fruits and Vegetables.

Apricots are now coming in from nearly all growing sections with a material shading from introduction prices. Cherries are much lower, with canners picking up some indifferent stock on forced sales at 2 and 3c. Fancies command top quotations. Coachella cantaloupes are increasing in supply, selling at $3.50 per crate of 16. Mexican watermelons wholesaling at four bits each, are not glutting the market. Figs from the Colorado desert are readily selling at $1.25 box. Strawberries are higher, with a lowering of grade, except a few "second crops," which command top quotations.

DECIDUOUS FRUITS.—Apples, per box, $1@2.50; Green Apples, 40@50c.

Cherries—Per box, Black and Red, 40@65c; Royal Anne, 50@75c; White, 25@40c; bulk, per lb Black and Red, 3@6c; Royal Anne, 4@6c; White, 2@4c.

Apricots—Per box or crate, $1@1.75.

BERRIES—Per chest: Strawberries, Longworths, $4@8; large varieties, $2@3.50; crate, $1.25; Blackberries, $4@7; Loganberries, $4@5; do, crate, 75c@$1.25; Gooseberries, per lb., common, 1½@2½c; do, English, 5@7c; Currants, $6@7.

CITRUS FRUITS—Per box: Oranges, Navels, fancy, $2@2.75; choice, $1.25@2; standard, $1@1.50; according to size; Seedless, $1.10@$1.25; late Valencias, $2@2.75; Lemons, $1.25@$2.75; Grape Fruit, $1@2.50; Tangerines, $1.40@1.65; Limes, $5@5.50.

New potatoes are in in greater supply, $1.65 being about best offer, and that for best stock. Old potatoes are holding steady. Slight variation in vegetables.

VEGETABLES—Asparagus, per lb., 4½@7c; Tomatoes, per box or crate, southern, $1.25@$1.50; do, Mexican, $1.50@2; Rhubarb, per box, 40@75c; Green Peppers, per lb., 8@12½c; Dried Peppers, Stockton, 7@8c; southern, 8@12½c; String Beans, per lb., 2@5c; Wax Beans, 4@6c; Green Peas, per sk., 75c@$1.25; Egg Plant, per lb., 7½@10c; Summer Squash, per doz., 50c@$1.25; Cucumbers, hothouse, per doz., 50c@$1; Garlic, per lb., new, 4@7c; Dried Okra, per lb, 12½c; Marrowfat Squash, jobbing at 1@2c per lb; Green Corn, per doz., 35c@50c.

POTATOES—Per ctl: River Burbanks, 90c@$1.15; River Reds, $1@1.10; Oregon Burbanks $1.15@1.25; New Potatoes, $1@1.75.

ONIONS—Per ctl: New Red, 90c@$1; Australian, $4.50@5; Green Onions, per box, 25c@90c.

Dried Fruits, Nuts, Etc.

Tame and uninteresting features still exist in the Dried Fruit market, and, in the absence of important trading, the prevailing prices for the moderate spot stocks offerings are largely nominal. Holdings of Prunes are quite heavy, and in some quarters there is a disposition to force sales by shading rates. Comb Honey is entirely cleaned up, but new stock is looked for about the middle of the current month.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are per lb, as follows:

Apples—Evaporated, 4½@6c; Sun dried, 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2¼@2¾c for Santa Clara; other sections, ¼@½c less.

PEACHES—Choice, 7c; fancy, 8@8½c; peeled, in boxes, nominal.

Pears—Bartlett, fancy, 11½c; choice, 9½@10c.

HONEY.

HONEY—Comb, per lb., nominal; Extracted White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 28@29c.

Hops.

Hops are slightly higher. The price of new crop is 27½@30c per lb., according to quality.

Beans.

Seasonable, quiet trading is reported throughout the Bean market, but, under scant offerings, the prevailing prices for all kinds are maintained with a marked degree of firmness.

BEANS—Prices per ctl: Large White, $2.35@$2.65; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.20@3.35; Red, $4.25@4.50; Pink, $3.40@$3.60; Bayo, $2.35@2.55; Blackeyes, $2.05@$2.25; Kidneys, $4.75@5.

DRIED PEAS—Prices per ctl: Niles, $3.25; Green $3@3.25.

Live Stock.

CATTLE—No. 1 Hay-fed Native Steers, 8c@8¼c; second quality, 7@7½c; thin Steers, 6c@6½c; No. 1 Grass-fed Steers, 7¾@8¼c; No. 1 Cows and Heifers, 6@6½c; second quality, 5½@6c; third quality, 5@5½c; thin Cows and Heifers, 4¼@5½c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

SHEEP—Per lb: Unshorn Wethers, No. 1, 4c, gross weight; Shorn, 3@3½c; Ewes, No. 1, unshorn, 3½@3¾c, gross weight; shorn, 3@3½c.

CALVES—Light, per lb., 4@4½c, gross weight; heavy, 3¾@4¼c, gross weight.

LAMBS—Suckling, per head, $2@2.25 or 4½c@5c per lb., live weight.

HOGS—Per lb., Hard grain-fed, weighing alive 50 to 200 lbs., 4¾@5c; weighing 200 to 300 lbs., 4½c; rough heavy, 3¼@4c.

WOOL.

Firm markets are reported for Wool and fancy parcels keep closely cleaned up at the top quotations.

Spring clip, per lb.: San Joaquin and Southern, 12 months' 9@11c; do, 7 months, 8@10c; Middle Counties, free, 12@16c; do, defective, 11@14c; Northern, free, 10@17½c; do, defective, 13@15c; Nevada, 12@15c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $10@15; Wheat and Oat, $10.50@13.50; Oat, $7.50@12.50; Barley, $8@11; Clover, nominal; Alfalfa, $8@10.50; Stock, nominal.

STRAW—Good to choice per bale, 60@75c.

FEED CORN MEAL—Choice grades, per ton, $32.50@33.

GROUND BARLEY—Per ton, $23@24.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.50@4.20.

WHEAT—No. 1 shinning, per ctl., $1.27½; Choice, $1.30; White Milling, good to choice, $1.32½@1.45.

BARLEY—Choice No. 1 Feed, $1.03¾@1.07½; off grades, $1.01¼@1.02½; Brewing, No. 1, $1.08¾@1.15; Chevalier, nominal.

OATS—Good to choice, White, $1.40@1.50; Red, $1.30@1.37½; Black, nominal at $1.25@$1.37.

CRACKED CORN—Choice quality, per ton, $32@33.50.

RYE—Good to choice, per ctl., $1.30@1.32½.

CORN—Good to choice, per ctl.: California, new, large Yellow, $1.45@1.55; small, do, $1.60@1.65; White, $1.45@1.55; Eastern, $1.42½@$1.52½.

Eastern Markets.

Grain and Produce.

CHICAGO, May 31.—Figures connected with the weekly statistics of the international trade were less bearish than they have been for some weeks past, and excessive rains had fallen in many sections of the Southwest. The bullish reports from the Southwest were partially substantiated by liberal purchases by St. Louis houses and by the strength in that market. The corn market here also showed decided strength. In consequence, an improved demand developed in the wheat pit.

Cash quotations were as follows: Flour was quiet and steady; No. 2 spring wheat, 92@97, No. 3, 85@96; No. 2 red, 1.05@1.06; No. 2 corn, 48@48½; No. 2 yellow, 49@49½; No. 2 oats, 40½@40¾; No. 3 white, 41@43; No. 2 rye, 74@76; good feeding barley, 38@41; fair to choice 12@16; eggs, steady, 15@.

On the Produce Exchange today the butter market was steady; creamery, 13½@17½; dairy 12@16; eggs, steady, 15@15¾; cheese, easy, 7¾@9.

Dried Fruits, Nuts, Etc.

NEW YORK, May 1.—The market for evaporated apples is quiet, but desirable grades are steadily held; common are quoted at 4@5¼c; prime, 5⅝@5¾; choice, 6¼@6½; fancy, 7@7½. Prunes continue easy, as far as California grades are concerned, though there has been no quotable change in prices, which range from 2¾@5¾c for all grades. Apricots meet with a small demand, but holders are not pressing supplies on the market, and prices are maintained. Choice are quoted at 9½@10c; extra choice, 10¼@10½, and fancy at 11@13. Peaches are in a fair jobbing demand, and the market shows a hardening tendency. Choice are quoted at 7@7¼c; fancy at 9½@10c.

WASHINGTON, May 31.—The weekly summary of crop conditions issued by the Weather Bureau of today says that with the exception of the Northern Rocky Mountain region and Upper Missouri and Upper Mississippi valleys, where the early part of the week was too cool, the temperature of the week ending May 30 was favorable in all districts, especially to the eastward of the Mississippi river. Light frosts occurred in Wisconsin, and heavy damaging frosts in Montana, Idaho, and the eastern portions of Oregon and Washington. Continued northerly winds caused considerable damage to fruit, and possibly injured grain in California. Rain is generally needed in the North Pacific Coast. On the North Pacific Coast Winter wheat has done well, except in portions of Eastern Washington, where it has been injured somewhat by frosts. In California, the crop is maturing rapidly, but has probably sustained injury by drying winds. On the North Pacific Coast, early spring wheat is doing well, but rain is needed for the late sown.

CITRUS MARKETS

Los Angeles, June 2, 1904.

With some extra fancy Navels commanding $3.75, the orange market is redeeming itself. Strawberries and other small fruits are a strong factor, preventing great increase in price of oranges, yet the present condition is good. Even sweets and seedlings have commanded as high as $2.55. Valencias are selling well, but are expected to bring higher prices later. Dispatch to the Los Angeles Times this morning says:

The market was firmer and higher under more active demand. Sales from store were good, notwithstanding the cold rain that fell a good share of the day.

AUCTIONS.

NEW YORK, May 27, 1904.

Red Globe, Riv., Riverside, $2.50.
Uncle Sam, Riv., Pachappa, $3; Fiesta, $2.65.
Squirrel, A. H. Ex., Arlington, $3.55.
Red "C," Cov. Ex., Covina, $2.35; White "C," $2.05.
Pointer, A. C. G., Ex., Azusa, $1.90.
La Mesa, Riv., Riverside, $2.75.

BLOODS.

Tiger, S. B. Ex., Colton, $2.25.
Squirrel, A. H. Ex., Prenda, $2.55.
Young America, P. & McKeavitt, $2.40.
Three Fates, A. L. King, $2.35.
La Mesa (Ruby) Riv., Riverside, $2.30.
Monogram, Seeds, C. C. U., Redlands, $2.05.

PHILADELPHIA, May 27, 1904.

Stag, A. C. G. Ex., Glendora, $3.10; Pointer, $2.25.
Violet, D. M. Ex., Duarte, $2.
Select, S. A. Ex., San Dimas, $1.95.
Echo, S. T. Ex., Pasadena, $2.60.
Coyote, O. K. Ex., Ontario, $2.50; Owl, $2.
La France, J. S. Kuns, $1.50.
SEEDLINGS—Angel, C. C. U., Colton, $2; Marguerite, $1.70.
Lilac, C. C. U., Pomona, $2.30.
Beaver, C. C. U., Orange, $1.60.
Bonner, $2.25.
Cream, C. C. U., Rialto, $3.20; Minnehaha, $2.25.
Clover, C. C. U., Redlands, $2.70.
Select, S. A. Ex., Claremont, $2.40.
Foothill, S. A. Ex., No. Pomona, $2.30.

BOSTON, May 27, 1904.

Golden Rule, Riv., Riverside, $2.40.
Fancy, Riv., C. B. Sta., $2.50.
Owl, O. K. Ex., Upland, $2.30.
Owl, O. K. Ex., W. Cucamonga, $2.35.
Select, S. A. Ex., No. Pomona, $2.60.
BLOODS—Violet (Malta), D. M. Ex., Duarte, $2.20; Do. $2.10.
Golden R., (Ruby), Riv., Riverside, $2.15.

NEW YORK, May 27, 1904.

Old Baldy, C. C. U., Upland, $2.90.
Rialto, C. C. U., Rialto, $3.25.
Gondolier, C. C. U., Rialto, $2.45.
Clover, C. C. U., Redlands, $2.40.
Select, S. A. Ex., San Dimas, $2.40.
Violet, D. M. Ex., Duarte, $2.45.
Alta Mesa, F. P. Corson, $3.10.
Young America, P. & McKeavitt, $2.55.
SWEETS—Purity, $2.25.
Red C, (Med.) Cov. Ex., Covina, $2.10; White C, $1.85.
ST. MICHAELS—Orange Prince, Collins Ft. Co., $2.80; Orange Queen, $2.40.
Red C, Cov. Ex., Covina, $2.65; White C, $2.65.
Navajo, Riv., C. B. Sta., $2.35.

NEW YORK, May 31, 1904.

Bear, O. K. Ex., Upland, $3.40.
Blue Globe, Riv., Riverside, $3.20; La Mesa, $2.85; Golden Rule, $2.65, $2.15; Red Mountain, $2.80.
Uncle Sam, Riv., Pachappa, $2.70.
Our Pride, Riv., Highgrove, $2.95.
Squirrel, A. H. Ex., Arlington, $2.40.
Squirrel, A. H. Ex., Prenda, $2.80.
Echo, S. T. Ex., Pasadena, $2.70; Arroyo, $2.50.
Pointer, A. C. G. Ex., Lateen, $2.45; Florencea, $1.85.
Old Mission, Chapman's, $2.85.
Three Fates, A. L. King, $2.50, $2.55.
SEEDLINGS.—Iris, D. M. Ex., Duarte, $2.65.
Tiger Head, C. C. U., Redlands, $2.65.
SWEETS.—Independent, F. P. Corson, $3.
Old Mission, Chapman's, $2.70.
Ocean, Moffat Ft. Co., $2.80.
White C, Cov. Ex., Covina, $2.20.
Echo, S. T. Ex., Pasadena, $2.50.
ST. MICHAELS—Old Mission, Chapman's, $2.95.
Whittier, S. T. Ex., Whittier, $2.30.
VALENCIAS.—Whittier, S. T. Ex., Whittier, $2.25.
Blue Globe, Riv., Riverside, $2.70.
Arroyo, S. T. Ex., Pasadena, $2.25.
Blue Globe, Riv., Riverside, $3.20.
TANGERINES—Blue Globe, Riv., Riverside, $3.60.
Fancy, C. C. U., C. B. Sta., $3.10.
Lion Head, C. C. U., Redlands, $2.70.
Rialto, C. C. U., Rialto, $3.45; Gondolier, $2.40.
Old Baldy, C. C. U., Upland, $3.25.
National, C. C. U., Highgrove, $3.05; Carnation, $2.75.
Red C, Cov. Ex., Covina, $2.70; Red C, $2.05.
Jewel, S. A. Ex., Pomona, $2.65.
Selects, S. A. Ex., No. Pomona, $2.45.
Stork, S. A. Ex., Claremont, $2.10.
Mountain Chief, Rubidoux Ft. Co., $2.10.
Success, F. H. Spiech, $2.85.
BLOODS—Three Fates, A. L. King, $2.25.
Stork, S. A. Ex., Claremont, $2.50.
Red Globe, Riv., Riverside, $2.50.
Carnation, C. C. U., Highgrove, $2.60.
Eagle (Ruby) Riv., Riverside, $2.30.

PHILADELPHIA, May 31, 1904.

Iris, D. M. Ex., Duarte, $2.50; Violet, $2.10.
Palm Tree, A. H. Ex., Arlington, $2.65.
Jewel, S. A. Ex., Pomona, $2.45.
Fancy, Riv., C. B. Sta., $2.35; Navajo, $2.25, $2.40.
Perfection, C. C. U., Allesandro, $2.80; Golden Rod, $2.55.
Monogram, C. C. U., Redlands, $2.20; Lion Head, $2.65.
Lilac, C. C. U., Pomona, $2.30; Lighthouse, $2.20.
Golden Rule, Riv., Riverside, $2.30.
Hunter, A. C. G. Ex., Azusa, $1.80.

BOSTON, May 31, 1904.

La Mesa, Riv., Riverside, $2.90; Golden Rule, $2.25, $2.30.
Uncle Sam, Riv., Pachappa, $2.75; Fiesta, $2.60.
Quail, O. K. Ex., Ontario, $2.65; Coyote, $2.25.
Queen Bee, Q. C. Ex., Corona, $2.25.
Jewel, S. A. Ex., Pomona, $2.35; Carlo, $2.70.
Palm Tree, A. H. Ex., Arlington, $2.65.
Select, S. A. Ex., San Dimas, $2.80.
Select, S. A. Ex., Claremont, $2.70.
Foothill, S. A. Ex., No. Pomona, $2.90.
RUBY BLOODS—Golden Rule, Riv., Riverside, $2.65;
Royal, Q. C. Ex., Corona, $2.05.
Monogram, C. C. U., Redlands, $2.70.
Queen Bee, Q. C. Ex., Corona, 90c.
ST. MICHAELS—Queen Bee, Corona, $2.30.
Pine Cone, S. B. Ex., Highland, $2.85.

CITRUS FRUIT SHIPMENTS.

	Oranges	Lemons.
Friday, May 27	90	12
Saturday, May 28	106	29
Sunday and Monday, May 29-30	90	9

Total to date this season, 22,885 acrs of which 1600 cars are lemons.

Total to same date last season, 17,684 cars, of which 1693 were lemons.

ORPHANS RECEIVED.

The following children have been received in the Boys' and Girls' Aid Society Home from January 1st, 1904, to April 1st.:

Half Orphans — Wentworth Wolfe, aged 12 years, blue eyes, dark hair; Joseph Miller, aged 12 years, brown eyes, dark hair; Flora Halbe, aged 10 years, blue eyes, light hair; Margaret Halbe, aged 8 years, blue eyes, light hair; William Halbe, aged 6 years, light hair, blue eyes; Foster McMuller, aged 11 years, blue eyes, light hair; Lionel Dupes, aged 8 years, blue eyes, light hair; Pearl Dupes, aged 4 years, brown eyes, light hair; George Nave, aged 10 years, brown eyes, light hair; Ben Odell, aged 8 years, brown eyes, brown hair; Ogle Edwards, aged 11 years, blue eyes, light hair; Virgie Edwards, aged 7 years, blue eyes, light hair; Rosebud Edwards, aged 9 years, brown eyes, light hair; Frank Welkins, aged 8 years, brown eyes, light hair; Louis Yenies, aged 8 years, black eyes, dark hair; Bruno Yenies, aged 6 years, black eyes, dark hair; Joseph Trotter, aged 5 years, brown eyes, dark hair; Domingos Frank, aged 9 years, black eyes, dark hair. Herbert Grimes, aged 4 years, black eyes, brown hair.

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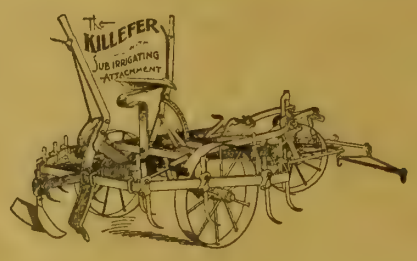

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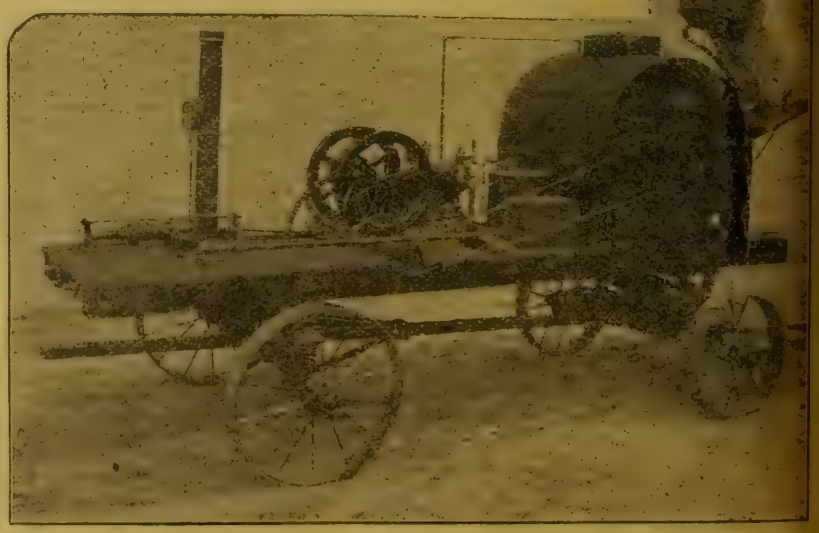

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California Cultivator

LOS ANGELES SAN FRANCISCO

JUNE 10, 1904

IN THIS ISSUE: Exchange or No Exchange; The Gypsy Moth; Insects Beneficial to Man (concluded); Just About Milking; Contagious Abortion.

Removing Boughs Infested With Gypsy Moth. See Page 555

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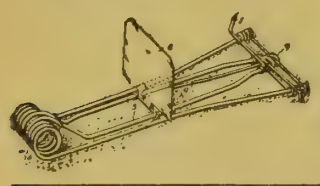

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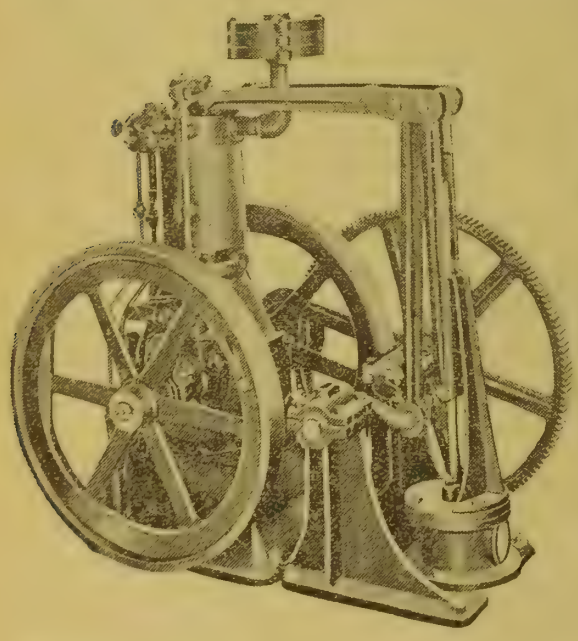

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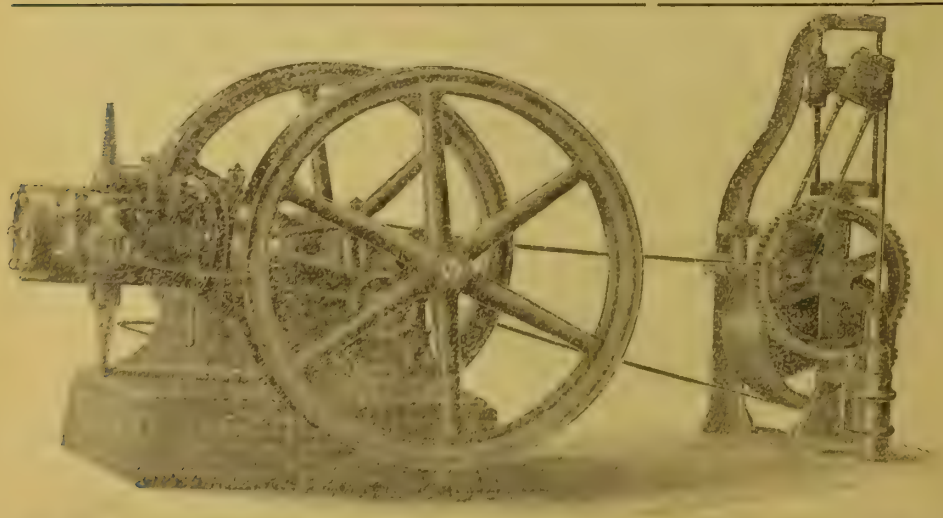

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Vol. XXII—No. 24 LOS ANGELES, CAL., FRIDAY, JUNE 10, 1904 Subscription $1 a Year

The Gypsy Moth

By John Isaac, Sacramento, Cal.

Nothing giving greater protection to our fruit growers was ever devised than the horticultural quarantine system which now prevails and has prevailed in our State for some years past. This system was the direct outgrowth of the introduction of the San Jose scale and the cottony cushion scale into California some thirty-five years ago. We discovered then, all at once, that our doors were wide open for the introduction of pests from all parts of the globe and that some of the worst of them were being turned loose upon us. We then determined that, if we were to succeed as a fruit producing State, some action looking to the stopping of further arrivals of these undesirable immigrants must be taken, and our present efficient system of horticultural quarantine was adopted, and since it has been in operation thousands of pests, strange to our coast, have been stopped from entering. Many of these unquestionably, had they once got a foothold, would have proved as destructive pests as the San Jose or the cottony cushion scale ever was.

It is impossible to estimate how much damage even one insect may be capable of, and we know of no more strongly marked incident illustrating this than that afforded by the Gypsy moth in Massachusetts. Here is a case in which a single insect, introduced without its natural checks, has ruined great areas of forest and orchard, defoliated shade trees in villages, and cost bundreds of thousands of dollars in fighting it, with no immediate prospect of ever overcoming its depredations. All that has so far been accomplished by artificial means and at the outlay of enormous sums of money, has been to somewhat check its spread.

This pest was introduced into Medford, Mass., in 1868 or 1869 by a French naturalist named Leopold Trouvelot, who was experimenting with silk worms. One of these, a female, escaped from him. One little moth was certainly not to be dreaded. The next year there were a few more, but not enough to merit serious attention. Another year passed, and the caterpillars increased, and so they continued to increase almost unnoticed for some years until, finally, about ten years after the first introduction of the moth, it became noticeable for the damage it was doing. Within twelve years from the date of its first introduction it had become a serious pest, and since that time it has spread with such alarming rapidity and has wrought such devastation in the sections afflicted by its presence that today it takes rank as the foremost insect pest of the United States.

One of the victims of the pest wrote of it: In 1882 the gypsy moth caterpillars were very troublesome in our yard and in that of our neighbors. At that time they were confined to our part of the street, but soon spread to all directions. The caterpillars were over everything in our yard and stripped all our fruit trees, taking the apple trees first, and then the pears. There was a beautiful maple in front of the next house and all its leaves were eaten by the caterpillars. They got from the ground upon the house and blackened the front of it. The caterpillars would get into the house in spite of every precaution, and we would even find them upon clothing hanging in the closets. We destroyed a great many caterpillars by burning, but their numbers did not seem to be lessened in the least."

From the shade trees and the orchards of the towns they spread to the woodlands and for a time seemed to threaten the total destruction of all vegetation in the section in which they were prevalent. The nuisance at last became so dangerous and threatening that the State was appealed to for aid and an appropriation was made for the purpose of fighting it. Since then over a million of dollars have been expended in this direction, and the commission having the matter in charge ask for an appropriation of $200,000 a year for not less than five years, then $100,000 for another term of not less than five years, and after this at least $15,000 for another term. In spite of all this expenditure of money, in spite of the best scientific assistance, in spite of continuous work against this terrible pest year after year, it shows no indication of decrease and the people of Massachusetts, or of that section where it is at its worst, are in despair.

Fortunately we have not got this pest in our State, but how near we came to getting it very few are aware. Several years ago an enterprising young man, who had had a good job in fighting this insect in Massachusetts removed to Fresno county and, wishing to follow his old trade in his new home, sent back to his native State for a supply of gypsy moths with which to make a start in Fresno. Under our present horticultural regulations all such matter coming through the mail is subject to inspection, and as Mr. Craw was notified of its arrival, went down to Fresno and soon put a stop to that enterprise. In the meantime the fellow who had attempted the diabolical act had become aware that there was something in the wind and had disappeared. Had it not been for this strict guardianship over our orchard interests there is no doubt that we should now have been laboring to get rid of the gypsy moth, with perhaps as little success as is Massachusetts. This, however, is but one of hundreds of possibly as destructive pests which have been barred an entrance into our State by this system.

Five-Year-Old Sibley Navel Orange Grove. Ontario, Cal.

Exchange or No Exchange

A straight day of discussion of the Exchange question was given at the Pomona- Claremont -Ontario- Upland- San Dimas - Glendora - Azusa - Covina Farmers' Clubs picnic at Ganesha Park, Pomona, last Monday. Discussion for Exchange, for f. o. b., for auction plan and other solutions of the vexed citrus marketing situation. Many men of many minds, yet the general feeling which prevailed was that the Exchange must be sustained. We say the general feeling, for all through there was pronounced expression of support for Exchange sentiments.

This meeting, or picnic, of farmers' clubs above mentioned is an annual affair that has always before been held at the home ranch of M. B. Curtis, at La Verne, until this year. The health of Mrs. Curtis prevented the usual arrangement, hence Pomona was chosen. John Wasson, of the Pomona club, presided in the forenoon, and Prof. Cook, of Claremont Club in the afternoon. At the luncheon hour the newspaper men present all had a square meal, not that they carried it there, but they just farmed the farmers. But it was a fine lunch; hot coffee was fur-

(Continued on Page 558.)

Insects Beneficial to Man

By John Isaac, before the Farmers' Institute, Courtland, Sacramento Couuty, May 27, 1904

(Concluded.)

Now, having touched upon beneficial insects in a general way, I will come to the main branch of my subject, insects which benefit us by keeping down those other insects which are detrimental to us. These may be divided into two general and very large groups, the predaceous and the parasitic.

Predaceous insects are such as work on the outside of their victims, which move freely from place to place and pick up their prey wherever they happen to find it. In this class some members of nearly all the natural orders are found, and they are not confined to any particular order. Perhaps the most widely known and most serviceable of this class is found in the Coleoptera, or beetles, and of these the Coccinellidae ,or lady birds, are at once the most popular and the most effective family. To them we owe the fact that aphids and scale insects are not more numerous and destructive than they are, for, in every stage of their existence they devour these pests in enormous numbers. Perhaps the lady-birds are the more generally in favor the world over than any other member of the insect world, and the children everywhere look upon them as friends and pets, hence we have the popular names of lady-birds and lady-cows in England, and God's cows and the Virgin's animals in France. We have a very large number of different species belonging to this family, very diverse in size and markings, some so small that it requires a good eye to detect them, while one, the giant of its family, the Synonycha grandis, is nearly half an inch in diameter. We may safely assert that the whole lady-bird family is beneficial and should be protected.

Another family belonging to the same order as the lady-birds is the ground beetles. There are some 1200 species of these in the United States, and all are beneficial. They are not so conspicuous as are the lady-birds as they have the habit of hiding under clods and stones and very many of them are nocturnal in their habits, while the greater part of them are either black or brown in color and resemble at a general glance other members of the coleopterous order. They live largely upon other insects and very largely upon caterpillars and the larva of insects which attack our plants. Besides these there are the tiger beetles, and the carrion beetles, and very many others which are beneficial to us directly and indirectly.

Probably the next order to which we are most deeply indebted is the Hymenoptera. It is this order which gives us the bees and the wasps. The Ichneumons belong here and in this very numerous family we find the most diligent workers in our interest. Very many of these lay their eggs upon or in the caterpillar tribes, and out of the many of these crawling pests of our gardens, few ever attain perfect growth owing to the work of their Ichneumon enemies. It is in this group, too, that we find the most effective enemies of the scale bugs, and in fact it is largely due to the work of the hymenopterous parasites that we are enabled to produce fruit at all. Most of you remember the prevalence of the San Jose scale in our State a couple of decades ago. This pest had, unobserved, got a foothold in our State, and had spread all over it before we discovered the danger of it. Our deciduous trees were dying under its malign influence and peaches and apples and other trees subject to its attacks were being dug up and destroyed by thousands, very much as they now are in the Eastern States where it has appeared. We were put to our wits' end to check it, and in this effort very many of the remedies which we use today originated, but all our efforts were in vain, for while we found the salt, sulphur and lime wash was an excellent check, we were not able to prevent its destructive spread. At this juncture a minute internal hymenopterous parasite was found to have adapted itself to it, and gradually the San Jose scale disappeared until today we do not regard this scale as a serious pest, although it is still reported in isolated sections at intervals. This parasite, the Aphelinus fuscipennis, is one of our native varieties and is generally distributed all over the country. It is claimed that it is not so effective in the east as in California, as the seasons there are shorter and it is not as many brooded there as here. Professor Johnson, of Maryland, who spent some time in California and is acquainted with the work of parasites here, made the following statement before an annual meeting of economic entomologists in regard to its work in his State:

"Last fall I discovered a new locality for Aphelnus fuscipennis near Easton, Talbot county, in an infested orchard along the Miles river, the orchard containing a miscellaneous variety of fruit and all the trees quite seriously infested with San Jose scale. Instructions had been given to the owner to cut them down and burn them. A quantity of small branches incrusted with scale were brought to the laboratory and inclosed in breeding tubes. Much to my surprise these tubes were swarming with parasites a few days later; from one tube 1114 specimens of Aphelinus fuscipennis were taken, while the second tube gave 432, a third 1478 and a fourth more than 1000, but owing to an accident the count in the case last mentioned was not exact. The writer was greatly elated over this discovery."

The Scutellista cyanea, which was done such remarkable work on the black scale in the short time it has been with us, and from which we hope so much in the future, is a member of this order. This parasite, in the sections where it has become established, has practically annihilated the black scale and from centers where first established it has radiated until it already covers large areas, and gives us grounds for hope that the black scale, as a pest, is practically a thing of the past. We have secured this insect without its secondary parasite, so there is nothing at present to check its unlimited spread, but, of course, there is danger that some of our native varieties may adapt its taste to the Scutellista, and it may not spread so rapidly in the future as it is now doing. These, however, are mere surmises, and, from present appearances, the Scutellista will make for itself a record on the black scale equal to that of the Vedalia on the cottony cushion scale.

This order gives us parasites of the soft brown scale of the orange, which at one time was as great a pest as the black scale lately was. It has given us an effective parasite of the yellow scale, and very many others, until today in conjunction with other beneficial insects the damage from the scale family has been reduced to a minimum. The most serious of our scale pests today are the red scale and the purple scale, for neither of which we have yet secured a satisfactory parasite.

The larger members of this order prey upon other insects, and most of you have seen a yellow jacket capture a horse fly very much exceeding it in size, quickly cut off its head, remove its wings and fly away with the dismembered body. If you will open the nest of one of our common mud daubers you will find it packed solid with either small grubs and caterpillars or spiders, which have been carefully stored to supply the young larva when it shall be hatched out. I have opened a number of such and found them to contain twenty or more of the caterpillars of our destructive oak moth, and I believe they do much in keeping down this pest. Altogether there are more beneficial insects in this order than in any of the others, in fact, nearly all are of benefit to us in some way or other, and while some of its members may injure our grapes and ripe fruit by puncturing the skin and carrying off the juices, still, in view of the immense benefits which we receive from the order at large, we might put up with the inconvenience this causes us.

Even the order of true bugs, the hemiptera, in which we find the greater part of our worst pests, including phylloxera, aphids, scale bugs, and the various plant bugs, is not without its redeeming members, and here we have very many predaceous insects, which devote their lives to sucking the juices from the bodies of other insects which do us damage. One whole family, the Reduviidae, or as it is commonly known, the assassin bug, is engaged in this work. They have been called by the latter uncomplimentary title from the fact that they prey upon other members of their kind. This is a very large family, comprising nine sub families and at least fifty genera. They are large insects, usually prettily marked and may all be classed as beneficial, as they live as a rule upon the blood of other insects. Some of them, however, attack the higher animals, and even man himself is sometimes made their victim. The kissing bug, which attained a great deal of newspaper notoriety a few years ago, belonged to this family.

In the Diptera we find very many beneficial species, although it also gives us the mosquito and the house fly. And I have seen it stated that where they were not too numerous to be annoying, the house flies are beneficial, in that they clear the air of germs which might otherwise breed disease, that they are general scavengers and do more good than harm. After a flight through the air, you will often see a fly settle down and go over his legs and wings with his antennae, carefully removing the particles which have adhered to them. It is claimed that in his flight he has gathered up quantities of disease germs, and in this act of cleaning himself he is devouring them. I cannot vouch for this, but I have been in some situations where I should have preferred all risk from germs to the plague of flies. Were it not for the work of flies and other insects as scavengers, however, there is no doubt that we should suffer very much from infectious diseases, for they are the greatest natural force in the removal of dead and decaying substances, and it is astonishing how rapidly the carcass of a large animal will be removed by these insignificant members of the animal world. This order gives us the big family of syrphus flies, the members of which resemble various kinds of bees and wasps, and most, if not all of which are beneficial. They are all predaceous and devour aphids in enormous quantities. You have doubtless often noticed one of these flies hovering almost motionless over a flower bed, its body banded with black and yellow rings, resembling very much our common yellow jacket. It will remain thus poised in the air for moments together, when, with an almost lightning like motion it will dart upon its prey, and then again take up its motionless position in the air. The

(Continued on Page 560)

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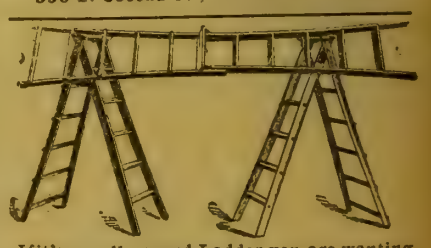

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Long stroke, steady movement, runs smoothly, and is perfectly noiseless.
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MILK FEVER.

I have always believed, probably because my father so believed and his practice was governed by this belief, that our cows, especially if great milkers, should have a long period of rest between milking periods, each year. I have always acted on this theory. I have had cows that it was very difficult to dry off, and I would have to reduce food and in some cases the water as well to dry them off at all. We now have a very fine cow, and as I felt that she had earned a good rest, and influenced by my father's view and my own, I thought last summer to give her an extra long rest. It was difficult to dry her, yet I did it and gave her two months of rest.

I was assured that Mrs. Sherman was one of our first authorities in all matters pertaining to cattle and the dairy, before she came down here to work in our institutes. My admiration of her ability grew very rapidly, as I was associated with her. Among other questions asked her was this: How long should a cow go dry? I was surprised, as she replied that she preferred cows that did not go dry at all. She has had long experience, and her dictum may not be lightly set aside. Indeed my cow is not doing any better this year, after the long rest, than in former years, with a much shorter interval of lactation.

I now notice that a noted German authority, A. Zehl, who has used the oxygen treatment very successfully, reports that he has never known a cow to be attacked with parturient fever that has been miked up to the time of parturition. He says that it is his settled conviction that the disease develops in cows that have been dry for a few weeks previous to calving, and never occurs in cows that have been milked up to the time of parturition. He is fully convinced that a long period before calving must be considered a predisposing cause of the disease. I can but believe that the cause of milk fever is the severe strain that comes with parturition, combined with springing of the milk, and the added energy required to digest the food when full feeding is practiced. We may readily believe that this strain and the consequent shock will be lessened in case the cow has been milked to the very time of calving. I believe that parturient apoplexy, or parturient paresis, is the result of nervous shock, and I would lessen this by withholding food largely for two days after parturition, and, in future, I shall follow Mrs. Sherman's rule and milk up to the time of calving, and shall hope that by following the two days fasting that I shall never know milk fever again.

* * *

BEES AND POLLINATION.

Prof. Newell, in the proceedings of the Georgia Horticultural Society, gives an able paper on the work of bees and their necessity in the pollination of fruit tree blossoms. Prof. Newell's investigations corroborate those of Fletcher, Waite and myself, and are to be welcomed as another clincher regarding the worth of bees in the orchard. Prof. Newell urges that the pollination of the Florida fruit trees is practically impossible, without insects, and that the honey bee accomplishes this more surely and successfully than any other insect. As we have so often urged in these columns, it is very unwise to plant our orchards in solid blocks of any one variety. We must practice mixed planting, if we would succeed, and must also provide bees in the orchard, in case they are absent.

I am also pleased that the position that I have maintained is also maintained by Prof. Newell that while bees do most certainly carry the germs of pear blight and brown rot, yet in their absence, other insects would do it, and so the removal of the bees would not lessen the evil. It takes myriads of insects to do a perfect work of pollination, and so we need the bees, as they far outnumber all other nectar loving insects. It takes but very few insects to inoculate from bud or blossom the rot or blight, and there are enough insects to do the work most thoroughly, even though there is not a honey bee in the county. There are usually enough honey bees and to spare, in trees and houses outside of apairies, to do this work, though not sufficient to do the work of pollination.

* * *

DO YOUR OWN SPRAYING.

A party consisting of Messrs. James Mills, Commissioner Cundiff and H. Praed of Riverside, S. A. Pease of San Bernardino, are making a tour of inspection of the orchards. It was my pleasure, accompanied by Prof. Sumner, to be with them a portion of one day in the Richards orchards. Mr. Mills informs me that they find a great deal of bad work, both of fumigation and spraying. He sends me this telephone message: "Bear on even harder than you have previously done in urging the orchardists to do their own work, either of spraying and fumigation." The cost of the tents, the difficulty of handling them, and the necessity of night work, makes it next to impossible for the grower to do his own fumigation, while it is entirely practicable to do his own spraying.

* * *

COMMON FLEA.

Mrs. M. P. H., Los Angeles, is very much annoyed with fleas. She sends one that proves to be the common human flea. We have not the chicken flea here, but have the dog and the cat flea. All work on people, and on animals. These are not the so-called Jiggers. The latter are larger and work under the nails of the toes, where they burrow. They are tropical. The larvae of fleas work in dust, so neatness is helpful to avoid fleas. Pyrethrum helps in battling fleas, and meat is said to attract them, when they may be killed.

* * *

CHLOROSIS.

W. S. M., Upland, sends me leaves from his orange trees, which show a decided lack of chlorophyll. He seems to be giving them plenty of water, and to have fertilized well. Surely there is some serious lack. The leaves are badly nourished. Is the soil possibly so loose that the water is not held? I know of a similar case here in Claremont, where I can only account for the sick trees on the theory of a too loose soil, so that the water is not held and of course is not available. It is unsuited to tree growth.

* * *

OPIUM, PEANUTS AND LIPPIA.

Mrs. J. Humholts, Los Gatos, asks how to gather opium and prepare for market; if peanuts are shelled before planting, and what to plant to grow on an embankment. Opium is grown for commerce in Turkey. It is the evaporated juice of a poppy, Papaver somniferum. I know no reason why it would not do well here, but I know of no trial. Peanuts are planted unshelled. Lippia repens ought to do well on steep banks.

* * *

SELF SUCKER.

S. W. R., Santa Ana, asks for advice through the Cultivator to cure a cow that sucks herself. I know of no way to cure except by the use of surcingle, a halter and wooden strips snapped into these. Unless she was very good I should send her to the shambles.

* * *

LUPINE SEED.

J. B. Neff asks where he can get seed of our common lupine, L. micrathus. I do not think that it is in the market. I know of no way other than to find it and gather the seed. One objection to this plant is that the seed is not available when desired.

The man who is always trimming his sails—backing and apologizing because he has not been able to do this or that, who is not content to be himself, who is always trying to be somebody else, will never develop a strong character.—Success.

The rapid melting of snow in the Sierras has caused the San Joaquin river to rise to high water mark. No great damage is anticipated.

Small Potatoes
result from a lack of
Potash
in the soil. Potash produces size and quality.

We have valuable books which explain more fully the fertilizing value of Potash. We will send them free to any farmer who writes for them.

GERMAN KALI WORKS,
93 Nassau St., New York.

Meyer Wilson & Co., San Francisco, Cal., are Sole Agents for the Pacific Coast.

20,000
Citrus Trees
Now ready for delivery. Washington Navels and Late Valencias. First-class, reliable stock. Get our prices before buying.
POLLARD BROS.
Alhambra, Cal.

TREE SPRAY
CHEAPEST AND BEST
Insecticide
ON THE MARKET FOR USE ON
Citrus and Deciduous Trees
ENDORSED BY THE LEADING FRUIT GROWERS OF SOUTHERN CALIFORNIA

Lubricating Oils
SUPERIOR QUALITY FOR ALL KINDS OF MACHINERY
CUP GREASES AND COMPOUNDS
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Asphaltum

Southern Refining Company
P. O. BOX 596, STA. C LOS ANGELES, CAL.

CITRUS FRUITS

EXCHANGE OR NO EXCHANGE.

(Continued from first page.)

nished by the ladies of the Pomona club.

And the park, Ganesha Park, has possibilities of great beauty in the future. In it is shown Pomona's wisdom, the reserving of over fifty acres near the center of the city. Part of this was bought many years ago and fifteen acres added this year. From the summit of the highest hill in the park is one of the grandest views in Southern California. San Jose creek runs through the park and around the base of the hill and under the large native trees skirting this the picnic was held.

We cannot give a resume, even, of the whole day, but may, at least, pick out some of the main points of the addresses.

President Naftzger, of the Exchange, was compelled to be absent on acccount of death in the family, but the Exchange side of the question was presented by Messrs. Blades, Dreher, Jennison, Cook and Woodford. The f. o. b. was spoken of by Mr. Livingstone, of Covina, and the selling at auction by Mr. Oatman and Mr. Hartranft.

* * *

A few thoughts picked out of Judge Blades speech:

The Exchange, neither any one else, is objecting to the f. o. b. plan. Every orange that can be sold f. o. b. is. No reasonable f. o. b. offer was ever refused by the Exchange, never will be.

It is claimed Mr. Chapman of Fullerton gets better prices than the average of the Exchange. This is possibly true. Had he been in the Exchange he might have had better and had the satisfaction of sustaining a great co-operative movement which is attempting to benefit the industry.

If we can't get them all to go into this organization, which has labored faithfully for the past twelve years to win a majority of the fruit, can we get them into another which some one, or two, or a few, imagines better.

I want to say with as much force as I can that whatever is to be accomplished, there must be union.

Everybody combines and stays together, but the farmers.

They can nickname it a trust, but I, for one, am in favor of such a trust. You must combine against the everlasting combine.

* * *

Mr. Oatman said he had owned a grove in Riverside for the past twelve years, and had resided there for nearly a year. He felt that the selling delivered —"which I call selling after delivered" —had proved itself a failure.

The f. o. b. never can succeed, never has succeeded.

The auction should be located at Riverside. All Southern California fruit should pass through it. Riverside, as the original home of the Navel in California, should be the place selected for this auction. The auctions could be held in the forenoon and our packing houses could be visited in the afternoon. This would enable the buyers from the east to familiarize themselves with our pack.

The difference between f. o. b. and the auction is that there would be rivalry between buyers to secure the fruit, possibly securing greater prices, and in the fact that quotations constantly placed on board before bidders would be beneficial.

The complete success of this system might not be secured for five years, but it would come in time.

* * *

Mr. Hartranft spoke on the same subject, urging it as certain of successful carrying out.

Mr. Livingston, of Covina, who has been in California more than a year, felt that we must have something to lead us from the "wilderness of red ink" which the selling delivered plan has brought us into.

The consumer pays as much as ever, yet the grower does not get cost of production.

Two hundred car loads per day is sent hither and thither, with no thought of where they will stop; many of these to end up in the great dumping ground, the New York auction. The prices secured there settles the price all over the United States.

The good old commission business is the best of all. The commission man is interested in getting the biggest possible price that his eight per cent will be as large as possible.

* * *

Mr. Jennison: If we should sign an agreement—every one in California—not to ship an orange unless sold at auction, or f. o. b., here in California, some of us honest fools would keep our agreement, while some other fellows were quietly unloading the products of their orchards.

The blackboard seems to be about the only difference between the auction and f. o. b. plans.

The Exchange gives an absolutely fair deal to all. No one, nor no set, has any advantage.

If we had a new organization, which some of us are striving so hard to get, would it secure any wiser or better men than the Exchange now has or may have.

These men have devised and worked out the most complete and grand system of marketing products ever devised. It has done more to widen the distribution than any other or all other means of marketing.

It is possible the orange grower in the Exchange is being brazed in the mortar, but he isn't braying outside of it. That's being done by the outsider, or worse, by many not growing oranges.

* * *

Mr. Woodford, of Ontario-Cucamonga:—We didn't let Mr. Kinney's attorney examine our books, because he has proclaimed that he will probably secure a rival organization of the Exchange and we don't propose, as business men, to have a rival examining our books. We are competent to do that ourselves.

We are going to get more money than ever before in the history of the Exchange this year.

* * *

Mr. Dreher, of San Antonio Exchange:—I am willing to join my neighbors and am content to take the average of all.

The boasted "independence" of some is not in order this day and age. Combination and dependence upon each other is essential.

The time was when the merchants the land over made their annual or semi-annual trips to New York to purchase goods. Now the goods are sent by the representatives of the New York houses all over the country seeking a market. The orange grower is showing the same spirit of advancement and is seeking a market.

In the Exchange, every grower is equal to every other grower.

Why should we not put our fruit into any market. And, then, why should we withdraw and leave the market free to some one else who may enter the same field. We are not here to market the other fellow's fruit, but our own.

If we could eliminate competition of California fruit with itself, I believe we could command at least twenty-five per cent increase in returns to the grower.

San Antonio will pay more money in the aggregate to the grower than it ever has before.

* * *

Prof. Cook:—I challenge to show the equal of this organization as a marketing effort the world over.

The commission men will pull every string to destroy it.

It is imperative that it shall live.

* * *

E. O. Kennard, of Glendora, introduced resolutions discouraging purchasing plants of any kind from Florida nurserymen, because of the prevalence of "white fly" in that State.

* * *

A committee consisting of Messrs. Adams, Pomona; Curtiss, North Pomona; Griffith, Azusa; Le Roy, Claremont; Cheesbro, Covina; and Reid, Los Angeles, was appointed to bring to the attention of Exchanges the advisability of some solution of the "waste products" question.

POMELO JUICE GOES EAST.

On Wednesday of this week, Mr. C. W. Knape shipped to Merrit Ferrell, at South Duxbury, Massachusetts, eight barrels of his superior pomelo juice for use at that summer resort for Boston people. This pomelo juice of Mr. Knape is exactly what it purports to be—pure, fresh juice, with no chemicals or preservatives of any kind, and not concentrated. It's juice, that's all. Mr. Knape also preserves lemon, orange, grape and other fruit juices by his process, and there is no good reason why thousands upon thousands of barrels of these juices should not be prepared here for eastern shipment. It can be done, and we wonder that none of our monied men do not come forward with the needed capital.—Citrograph.

June is one of the most important months of the year as to irrigation and tillage of citrus trees. It is approaching time for the greatest growth of the year. There may also be some hot days which will try the metal of the young fruit. The tree standing in thoroughly tilled ground with abundant moisture is better able to stand unfavorable conditions than is the case with the indifferently cared for tree.

The deep irrigator, that is the one who irrigates but few times each season and then deeply, is the winner. The man who irrigates every three or four weeks is, we believe, making a great mistake. Send it down deep, then cultivate; then cultivate again. Wet as little surface soil as possible. Use large, deep furrows, then, after irrigation, throw in the dry soil on top.

The Ontario-Cucamonga Fruit Exchange was formed seven years ago. At that time, the Exchange controlled in this district, only 50 per cent of the crop. During the last three seasons, from 90 to 100 per cent of the citrus fruits of this district have been marketed through the Exchange, which shows conclusively that the Exchange method of marketing has been considered by the growers themselves, to be better than any other method before them.

The results of the present year have been such that when final payment has been made the growers for their fruit, they will have no cause to complain of the returns as compared with those made by any other shipping factor operating here.—Ontario Observer.

The Redlands Citrograph thinks there is "necessity for growers getting together on the f. o. b. basis and standing pat on the proposition if it takes the hair off." Thats all right, Scipio for such as like it, but some growers don't like that shiny appearance which comes where the hair usually comes off first.

Prevent the forming of rust on farm implements.

WE GROW TREES
for the FAMILY GARDEN
for the MARKET GROWER
If you expect to plant a tree next season send us your name and receive when ready in the fall our new descriptive catalogue of California Fruits and Roses.
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THOMAS PHOSPHATE POWDER
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Write for pamphlets and prices

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TREES
Our Citrus Trees are leaders in their line and can sell you either 1 or 2 year Washington or Thompson Improved Navels, Navelencia and Valencia Late Orange Trees; also Marsh's Seedless Grape Fruit and Lisbon and Eureka Lemons. Trees strong, vigorous, true to name and will grow when planted. Write now for prices on desired stock
REDLANDS NURSERIES
E. I. MARTIN, PROP. REDLANDS, CAL.

Wagner's Nursery
PHONE SUBURBAN 108 PASADENA, CAL.
Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

PERFECT GROWN CITRUS TREES
The cut to the left shows a budded citrus tree as grown in the San Dimas Citrus Nurseries, showing a perfectly shaped head to make a first-class and profitable tree when planted out. It is a one-year-old bud, affording a splendid object lesson of the superior orange and lemon trees we are now offering. Our monograph on "Citrus Culture,"—finely illustrated—tells all about planting and care of orange and lemon trees. If you will write we will be pleased so send you one
SAN DIMAS CITRUS NURSERIES San Dimas, Cal.

Irrigation in California

The Bureau of the Census has given out a preliminary statement concerning irrigation in California in 1902. From it we gather a few facts of interest:

California, the second largest State in the Union, has a land surface of 99,827,200 acres, of which a little more than 1.7 per cent was irrigated in 1902. Its coastwise position, length, width and variety and extremes of elevation combine to give it climatic conditions peculiarily its own.

No other State produces such a variety of crops and in no other State have agricultural lands, as such, reached the selling price of the semitropical fruit orchards of Southern California.

There is no county where irrigation is not practiced. The principal irrigation districts, however, are in the San Joaquin valley and southern portions of the State.

The soil is very fertile, and many extensive areas are peculiarily adapted to various high priced products, particularly citrus and deciduous fruits. Irrigation has for this reason reached its highest stage of development in California. In the number of irrigated farms and the total construction cost of irrigation systems, California holds first rank; in total area irrigated it is second only to Colorado.

The annual precipitation varies from 23.5 inches for San Francisco, and far greater in the extreme northwest, to 14.6 inches for Los Angeles and 10 inches for San Diego.

In 1902 the area irrigated from all sources of water supply aggregated 1,708,720 acres, an increase of 262,848 acres, or 18.2 per cent since 1899.

In 1902 there were in operation 6017 systems, with an aggregate of 7010 miles of main canals and ditches, the total construction cost of which was $23,772,157, or $13.91 for each acre irrigated. Irrigation was reported on 30,404 farms. The increase in number of irrigated farms is 18.7 per cent since 1899 and in total cost of construction, 23.9 per cent.

Of the total irrigated area, 1,526,509 acres, belonging to 23,383 farms, were watered from streams; 17,928 acres on 377 farms from springs; and 164,283 acres, representing 6644 farms, from wells. The construction cost of the 2419 stream-systems, including 6831 miles of main canals and ditches, was $18,280,560, an average of $11.24 per irrigated acre; the 304 spring-systems, with 179 miles of main canals and ditches, cost $101,504, or $5.66 per irrigated acre; while the 3294 well-systems represented a construction outlay of $5,390,093, an average of $32.81 for each acre irrigated.

In 1902 water from all sources in the San Joaquin drainage basin was utilized through 1064 systems to irrigate 932,931 acres belonging to 9717 farms. The irrigation works and 2473 miles of main canals and ditches cost $9,103,242, an average of $9.76 per irrigated acre.

That portion of California lying south of San Francisco Bay and west of the Coast Range of mountains is drained by several small streams, the largest of which is the Salinas river, a stream about 125 miles in length. Among those of most importance for irrigation purposes are Santa Ana, San Gabriel, Santa Clara and Pajaro rivers. Nearly 40 per cent of the irrigated area in this division was supplied from wells. The average number of irrigated acres per farm in this division is 22.7, which is less than that of any other division.

In 1902 there were 279,519 acres belonging to 12,317 farms irrigated from streams, springs and wells in this part of the State. The 1943 systems employed had 774 miles of main canals and ditches, and represented a construction outlay of $9,509,767, an average of $34.02 per irrigated acre.

The Sacramento, the largest river of California, derives its water supply largely from Mount Shasta and the surrounding high ranges in the extreme northern portion of the State.

In 1902, water from all sources in this drainage basin was utilized on 4438 farms to irrigate 206,312 acres. The 1090 systems, including 1748 miles of main canals nad ditches, were constructed at a cost of $1,882,227, or $9.12 per irrigated acre.

Northwestern California is drained to the Pacific above San Francisco Bay by the Klamath river and a few smeller rivers rising on the western slopes of the Coast range. More than nine-tenths of the irrigation in this region is from the Klamath river and its tributaries.

In 1902 irrigation was reported on 956 farms and 56,272 acres were irrigated from all sources in the several drainage basins. The 473 systems, including 861 miles of main canals and ditches were constructed at a cost of $304,952, or $5.42 for each acre irrigated. In the southeastern portion of California 8610 square miles lie in the drainage basin of Colorado river, which forms the State boundary for about 200 miles. Until recently, very little irrigation was practiced in this part of the State, because of the difficulty of diverting the water from the Colorado. This river drains 225,000 square miles and receives its principal water supply from the melting snows of western Colorado, and the high mountains of Utah and Wyoming. Its maximum annual flood stage of 50,000 second-feet occurs during the month of June.

In 1902 the California Development Company's plant was the only one taking water from Colorado river to land in California. This company delivers the water to eight mutual companies. These eight systems irrigated 10,000 acres on 250 farms. The construction cost of irrigation works and 85 miles of main canals and ditches was $500,000, or $50 per irrigated acre.

[It must be borne in mind that these figures cover the year 1902, which makes those in the last paragraph entirely different than at present prevail. At present there are at Imperial between 50,000 and 60,000 acres covered by water, instead of 10,000 acres. It may be said, also, that this water has been sold to land owners at from $5 to $25, or at an average of $15 per acre.—Ed. Cultivator.]

* * *

The office of Experiment Stations of the U. S. Department of Agriculture has issued a bulletin on the Acquirement of Water Rights in the Arkansas Valley in Colorado, by Hon. J. S. Greene of Pueblo, formerly State engineer of Colorado, prepared under the direction of Elwood Mead, chief of Irrigation Investigations. The laws and contracts are discussed, also, from the standpoints of the canal owner and of the public welfare. The report is, therefore, of great value to students of irrigation law and economics, since it gives much valuable information and its interpretation by one who has studied it from every point of view. The report is of interest to any one wishing to understand the subject of water rights in the United States.

Develop more water.

Stop the waste of that which you have.

Study more economical gates in head ditch. Gates are cheaper than men.

If your soil is fine and "sugary" along head ditch, a few loads of fine gravel saves the worst of the waste.

If you don't have gates, old gunny-sacks beat weeds in controlling the water.

Deep furrows with as little dry upper soil wet by the irrigation is better.

Some not only run large furrows, but a subsoiler is run in the bottom of it as well.

Few furrows, long runs, far between, deep soaking, deep roots, thrifty trees, good fruit, happy farmer.

Don't irrigate your neighbor's street trees with the waste from your orchard. He may like it and it does no harm, but can you afford it?

Night irrigation is disagreeable and everybody hates it, but if you have to do it, bear in mind that if the days are hot, you have put more water down in the soil and less up in the air.

MUST BE EVERLASTINGLY CAREFUL.

As a machine is no stronger than its weakest point, so a man may be careful and correct in all his dairy operations but one, and that one will cause him to produce a low grade product.—Coleman's Rural World.

"The success of the California Fruit Distributors is a practical lesson. The dried fruit people who have suffered so much during the last year will be forced to organize their interests on some good and inexpensive line. Organization and co-operation on proper business ideas is the keynote of success. The Vegetable Growers' Union and the Celery Association of Southern California, have been remarkably successful. It was merely a question of co-operative distribution and marketing. Last year's crop of celery in the south was the largest ever produced, yet it was all sold and at advanced prices. The growers thus secured highly satisfactory returns and all are prosperous."—Sacramento Union.

At the meeting of the directors of the State Board of Agriculture held last Saturday at Sacramento, it was decided to secure the services of Henry Berrar, of San Jose, as judge of the chicken exhibit of the State Fair. An arena is to be built in which to show horses and cattle, also to be used for riding tournaments. Prof. W. L. Carlyle, of Colorado, was engaged to judge the live stock. The board voted to abandon the premium list for California cattle exclusively.

Some Lemons.—Mr. J. P. Forrester, a rancher residing on Rowland Avenue, has 241 trees off of which he has picked between Feb. 23 and May 16th of the present year 73,381 lbs. lemons. These figures were furnished from the packing house weighing receipts.—Covina Argus.

Feed some grain to cows on pasture. It may not apparently be of advantage in the summer but the cows will winter better.

GINSENG Fortunes in this plant. Easily grown. Roots and seeds for sale. Room in your garden. Plant in Fall. Booklet and Magazine 4c.
OZARK GINSENG CO., DEPT. V-4, JOPLIN, MO.

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Growers of Deciduous, Citrus and Ornamental Trees and Vines
THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
SEND FOR PRICE LIST AND CATALOGUE
Jurupa Nursery Co. Riverside, Cal.

WE HAVE 20,000 Eucalyptus Rostrata
Left, and are cleaning them out at $10.00 per thousand. Specially quick orders are necessary to secure goods this season. We are now contracting to grow for next season. Let us know your wants.
The J. W. Armstrong Nursery Co.
POMONA, CAL.

FOR SALE—40 ACRES
Rich alfalfa, potato or fruit land, with $2000 water right under Lake Hemet Water System; 5-room house with domestic water piped in house; some fencing; county road on two sides. Five acres in potatoes, fine stand; balance in hay and pasture. For further particulars address BOX 15, HEMET, RIVERSIDE CO., CAL.

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For Sale, a choice piece of farming property, containing 86 acres; 60 acres under plow and is A1 potato land. Land adjoins river. All irrigable land, fenced. For further particulars address W. A. MOREHEAD, LOMPOC, CAL.

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Send us your name and address tonight and we will send you free
Our "Farm Hand" Sickle and Tool Grinder
Combines Automatic Sickle Grinder, Tool Grinder, Saw Gummer and Polishing Machine. Both Emery and Corundum Wheels, 4,000 revolutions a minute. In fact its $50.00 of Machinery for $10.00 Use it ten days. Then either return at our expense or send us our special price $10.00 Write now. Agents Wanted.
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INSECTS BENEFICIAL TO MAN.

(Continued from page 556)

larva of these flies is a small maggot which is generally domiciled in a colony of aphids. Its head is a sharp pointed beak, which more resembles a tail, but in this sharp point are the sucking parts, and with it the grub picks up aphis after aphis, sucks their juices, and drops the empty skins. One of these syrphus larvae will very speedily clean out a large colony of aphids.

The Tachina flies are another very large and beneficial family belonging to this order. The adults of these lay their eggs on other insects, very largely upon grasshoppers, and play an important part in keeping down that pest. During the visitation of grasshoppers at Livermore last year these tachina flies were very numerous and whenever a grasshopper was seen in the air, there, too, would be seen one of its enemies darting at it and almost instantly leaving the fatal egg which was to hatch out the grub destined to eat its victim alive. Other families in this order furnish us with friends.

The Neuroptera is crowded with our friends. Here we have the dragon fly, who devotes his life to eating up the pestiferous mosquito, and without whose aid, there is no doubt, that pest would be much more numerous than it now is. The lace-winged fly, one of the prettiest and most delicate of the insects, and one of our best friends, is also a member of this order. This is another of the many predaceous insects which feed upon aphids. Another member of this family is the Raphidan, a rather strange looking insect, somewhat resembling a small mantis in general appearance. The members of this family are all carnivorous and are found in orchards where they live, among other things, upon the larvae and pupae of the codling moth. Unfortunately they are not sufficiently numerous to keep the pest in check.

Now, I think if you will consider this matter, you will see from what little I have said that we owe much to our insect friends, and in spite of all the ills we suffer from them, they are as a whole really more beneficial than injurious to us. And, now, another word in regard to parasites. I believe where these are established that they are infinitely better, more effective and cheaper than any artificial remedies that we can apply.

Cromwell's advice to his soldiers was to put their trust in God, and to keep their powder dry. So I would say, put your trust in parasites, and you will not be deceived, but be sure you have got them and that they are effective before you stop fighting your insect enemies.

Ventura deciduous growers are about to form a union for the purpose of handling the dried fruit output. Apricots will be the principal feature to be handled. Ventura is the second apricot county of the State.

Santa Clara Valley fruit growers propose to spend $75,000 in advertising the good qualities of California fruits and tell folks how to use them, best methods of cooking, etc. Fruit marketing is a business and the business that cannot be benefited by advertising, is got to be found.

The average reader may be surprised to learn that there are more than 5,000 irrigated farms in Oregon. The State finds it necessary, in order that farming shall be carried on to the satisfaction of its people, to irrigate nearly half a million acres, or, to be exact, 439,981 acres.

BY J. W. MILLS, ONTARIO, CAL.

THE CODLING MOTH.

Bulletin No. 155 by Prof. C. W. Woodworth, gives directions drawn from experiments carried on at Watsonville last season. It should be in the hands of all apple growers.

It states that the spray should be put on as a fine mist and the tree not drenched. The first application should be given soon after the first blossoms fall and before the cup at the end closes. The spray should be given from above or sprayed into the air and allowed to settle on the young fruit.

The time for the subsequent sprayings should be determined by using bands on the trees. The worms that escape the first spraying will seek a hiding place in which to pupate and a good many will go under the bands. By removing the bands and examining them at short intervals and noting when the most moths come out, the time for spraying may be accurately determined. The time for the last crop of worms may be determined in the same way. There are at least three generations of the codling moth in most localities.

A new spray is recommended for trial. It is made as follows: Stir one pound of Paris green into a pint of crude oil (petroleum); slake four or five pounds of lime; add the Paris green and oil; stir well so that the lime will unite with the excess of oil; then dilute to one hundred and fifty gallons and it is ready to apply.

* * *

POOR CONDITION OF DECIDUOUS TREES.

There has been much comment on the poor condition of peach, plum and young walnut trees in the interior valleys of Southern California. The foliage is scant and in some cases has not appeared at all on some of the branches. This is noticeable on some varieties of peaches, though the branches seem to be perfectly healthy. The same conditions prevailed in 1897 and 1898. Irrigation and good tillage have no effect on the trees. The trouble seems to have originated in the abnormally high temperature of some of the midwinter days. There was a rapid development of fruit buds at that time and later there was a continued spell of frosty weather which checked the development, after which the trees failed to make a good start. Branches on the north side and underneath have made a normal growth. The apparent reason being that they were shaded to a certain extent and the early development that was induced over the balance of the tree did not take place in these shaded places. Observations made in 1898-9 showed the same conditions. It was also observed that peach and prune trees that grew in the shade of street trees were not affected to the same extent as those exposed to continual sunshine. There seems to be nothing that will induce the trees to start a vigorous growth. Time will remedy the trouble, though severe pruning will help the trees perhaps more than anything else the grower can do. Bountiful irrigation must be given, though it should not be given often but in deep furrows, so as to avoid keeping the soil cold.

* * *

AN ERROR IN FERTILIZER TERMS

In the California Cultivator of January 29th, a letter published from Dr. E. W. Hilgard stated that it was not advisable to use rock phosphate in California. A large fertilizer establishment in Southern California found that a number of its patrons refused to buy fertilizers which contained rock phosphate.

In reply to a letter addressed to Dr Hilgard regarding the terms of the letter published, the following answer was received.

"In reply I will say that the "rock phosphate" referred to in the letter in the California Cultivator was a term used to designate ground unacidulated phosphate rock and was not intended to include acidulated phosphate rock or superphosphate, such as is used in the goods represented by samples analyzed by us under Nos. 98 and 100. The phosphoric acid in these samples is just as valuable as available phosphoric acid in any mixed fertilizers or superphosphate. Those who have been using the term rock phosphate against the goods either misunderstood the use of the term or desired to make trade capital out of it.

It should be understood that raw rock phosphate is considered of little value as a source for phosphoric acid, but when treated with acid it is as valuable as any, in fact it becomes a superphosphate.

Green vegetables must be placed in rapidly boiling water and kept boiling briskly until done, but not over cooked. They must be drained as soon as they are tender and served as quickly as possible. If a sauce is to be served with the vegetables have it in readiness. If they are allowed to stand in the water they were boiled in or on the back of the stove for any length of time they lose their color and become tough. If the vegetables are to be served cold, as in salads, cook rapidly and in salted water, drain as soon as tender and set away in a cool place. Green vegetables, such as peas, asparagus, spinach, string beans, retain their fresh green color when cooked in salted water, but salt tends to draw out the juices and toughens the fiber. If the vegetables are known to be fresh and tender, salt should be added while they are cooking, as the color is thereby improved. If the vegetables are wilted and therefore liable to be tough, it is better to sacrifice color to tenderness and add the salt when the vegetable is cooked. The sooner green vegetables are cooked after being gathered the better, but it is not possible to secure fresh vegetables at all times.

Sorghum and cow peas stand next to alfalfa as grazing crops for hogs. Sorghum seed for hogs lacks ten or 15 per cent of the feeding value of corn.

Poor seed paves the way to failure.

We have some magnificent
Navel
Navelencia
and
Valencia
Trees
Still remaining in our nurseries. We want to clean them up. ¾ inch, 1 inch and 1¼ inch. Write us.
MILLS & MASTERS
RIVERSIDE, CALIFORNIA

THE
Vernon Nursery
4524 CENTRAL AVE.,
LOS ANGELES, CAL.
Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.
We still have a few of the finest two-year-old walnut trees ever grown in California.
You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.
A. YARNELL,
PROPRIETOR
4524 CENTRAL AVENUE
LOS ANGELES, CAL.

SHADE TREES
We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand
Roses, Palms, Ferns, Vines,
Ornamental Shrubs, Etc.
Write for Catalogue Free
Sycamore Grove Nurseries.
J. J. E. SAINT, PROP.
4584 Pasadena Ave.
LOS ANGELES, CALIF.

Grape Vines
SURPLUS STOCK
CORNICHON, ZINFANDEL
Sterculias---Acacias
and other Shade and Ornamental Trees.
Ferns, Palms and Decorative Plants.
Choice Flower, Garden and Tree Seeds.
Theodore Payne
SUCCESSOR TO HUGH EVANS
NURSERYMAN AND SEEDSMAN
440 South Broadway Los Angeles, Cal

CITRUS NURSERY STOCK
Valencia and Washington Navel Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.
PERRY LEWIS TUSTIN, CAL.

General Agriculture

TO PROTECT THE DELTA LANDS.

A large convention of residents of San Joaquin and Sacramento valleys, held in San Francisco recently, took steps toward the ultimate reclamation of the delta lands of the San Joaquin and Sacramento, also the tule lands about Tulare lake. Both big valleys had recently experienced disastrous losses from floods. The Sacramento river had broken through the levee four miles below the capital city and inundated a vast district, causing a loss of about $5,000,000, and the San Joaquin tributaries had been flooded with melted late snows from the mountains till the reclaimed areas about Tulare lake had been overflowed and 15,000 acres of splendid, thriving grain, that would have yielded forty sacks to the acre, destroyed for a loss of more than $1,000,000. Fresh from these practical demonstrations of damage by overflowing rivers most of the valley delegates were eager enough to join forces and do all in their power to bring about effective plans for permanent improvements that shall make the two great California rivers secure within their banks and permit the conversion of 750,000 acres of now useless low lands into valuable and productive regions.

The association was formed and took the name, River Improvement and Drainage Association of California. The membership is already 300, with a desire for 3,000 with annual dues at $1.00 each.

The cost of drainage and levee improvements contemplated have an estimated cost of from $10,000,000 to $20,000,000, and the suggestion is for the cost to be borne one-third by the national government, a third by the State and a third by the property benefited. The estimate is made that the value of the property will be increased by over $100,000,000.

THE CULTIVATED DANDELION.

As a cultivated plant the dandelion is assuming an important place in home gardens and in the large market gardens of the east. The returns indicate handsome profits. The seed are sown in the early spring ten or twelve inches apart and are covered one-fourth to one-half inch deep. The plants should be given the same culture as carrots during the summer except that they require thining. The following spring the leaves will be fit for use and are best when partially blanched by placing a cover of boards or boughs over the rows. This makes the leaves more tender and they have a less bitter taste than the wild dandelions. The plants are prepared for market in the same way as spinach and may be profitably grown at 50 cents per bushel, although the price received is frequently higher.—Farmer's Sentinel.

A Predaceous Insect for the Cotton Boll Weevil.—It is now thought that the researches of the Department of Agriculture for a natural enemy of the cotton boll weevil has been rewarded by the discovering of an ant in Guatemala.

The discovery was made by O. F. Cooke, botanist in charge of tropical agricultural investigations, Cabled instructions have been sent to him to report immediately to the department what assistance he needs in the way of men and money.

Mr. Cooke's investigations show that these ants spread themselves over fields of cotton, four or five to a plant and that they are consequently engaged in the destruction of the weevils.

Regarding the discovery of this insect the dispatches say:

During a trip in Central America last year, Cooke discovered a cotton grown by Indians which gave evidence of being immune from the attacks of the boll weevil and on behalf of the department he later began an investigation at certain points in Guatemala and Mexico. The investigations have been in more or less inaccessible regions in the province of Alta Vera Pas, Guatemala. The weevils are present there but the investigations show they are kept unquestionably in check by the presence of an active enemy in a large reddish brown ant.

This will mean much to the cotton producing states whose main industry was thus threatened with destruction.

Alkali Drainage—The success of the government experts in the experiments in drainage of alkali from some of the lands of Fresno is most gratifying. The Fresno Democrat says that the successful experiment can be seen any day by going to the ranch of S. M. Toft in Fresno colony where for 18 months W. H. Knox, a government expert, has been experimenting on 20 acres of ground. Where 2 years ago not even Bermuda grass would grow and where the ground was as white as flour and as barren as the head of a bald man, can be seen a fine crop of wheat standing nearly 6 feet tall, growing alfalfa, thrifty peach trees, and there is not an indication that the alkali ever covered the ground." This land had once been abandoned as worthless.

Pumpkins—Feed pumpkins to your cows. The Vermont station in a recent bulletin gives the general outcome of a recent trial, as follows: Six per cent more milk, solids and fat, was made when the pumpkins were fed than when they were omitted from the ration and hay and apple pomace fed instead. The quality of the milk was uniform on both rations. The station regards pumpkins as worth about $1.90 per ton. They can not be raised for that at a profit in Vermont, but they can be on well selected lands in the west.

We apprehended that pumpkins have more value than their analysis would indicate judging from the avidity with which milk cows will eat them in season. Our readers need not be told that they go to the right place when fed to brood sows or shoats in the fall of the year. If any of our middle aged readers remember how their mothers fed them on pumpkin seed tea when troubled with worms they will not be long in reaching the conclusion that pumpkins in themselves are no mean vermifuge and especially adapted to hogs after they have had their noses to the ground all summer and had every opportunity to become wormy.—Wallace's Farmer.

CO-OPERATION.

There is to be a meeting of co-operators at St. Louis, on June 15, 16 and 17 in the interest of co-operation in general and Rochdale stores in particular. N. O. Nelson, the noted co-operator of St. Louis, is one of the principals in the movement. Addresses on co-operation alliances, Rochdale stores, co-operative fruit packing and many other subjects will be made.

Can we transplant asparagus before it dies down in the fall? Can we cut off tops and transplant roots and have crop next spring?—J. H. S., Irwindale.

We do not think time would be gained by transplanting now. February and March are said to be best months. Yearling plants are best. One authority who has grown great quantities of asparagus, says, "Do not attempt to cut any asparagus until your plants have grown two years, but cultivate thoroughly." Another says it should be three years old before it is gathered.

The cabbage market is now in the dumps. It is claimed some have been sold for prices which will not pay for cutting and hauling. The hope was at the beginning of the season that the price would average $25 per ton.

When stacking hay preparatory to baling, money will be saved if the ricks are made large instead of several small ones scattered over the field, this saving the cost of moving the machine.

Prof. C. F. Baker of Pomona College and a lecturer before the Southern California Institute, has received appointment as government botanist to Cuba.

BEE INDUSTRY.

Interesting statistics concerning the production of wax and honey in the United States and more particularly California and the southern part of the State, have been compiled by George Robertson in the Fresno Democrat, which show something of the importance of the bee industry.

San Diego county is accredited with 20,002 swarms of bees, worth $50,000 and producing last year 466,290 pounds of honey and 11,400 pounds of wax. This showing with the exception of wax produced is better than for any other two counties of Southern California combined. Los Angeles comes second, with 8,923 swarms, and Riverside third, with 8,286.

The total number of swarms in all Southern California is placed at 55,440 —value $140,251—producing 1,269,420 pounds of honey and 62,210 pounds of wax. The totals for California are 129,444 swarms, valued at $363,885 and producing 3,667,738 pounds of honey and 115,330 pounds of wax.

California holds first place among States in this important industry, as does San Diego county among other counties of the State. California and Texas are the largest honey producers in the United States, other important States including Kentucky, Missouri, North Carolina and Tennessee. In the United States there are said to be 4,109,626 swarms of bees, valued at $10,186,513, and producing 61,736,160 pounds of honey and 1,765,315 pounds of wax, worth $6,664,904.—San Diego Sun.

Stables with too much cowy odors in them are not fit to keep milk in and separating should be done in another place.

"Count on my ad coming back to the Cultivator next fall, for I have had good results, surprising results, from his season's ads," is often told to the business office when the season's ad is stopped. This is very gratifying, because it means that the Cultivator is more than ever reaching the people, getting their confidence and thus proving of greater value to advertisers. That means increased profits and a better paper.

But there is still a better way of advertising, that is, better than stopping when the season is over. Of course the reader will take for granted that the publisher will say this for the reason that it brings increased revenue. But above and beyond that, we believe, as do many of our advertisers, that continuous advertising proves the winner. Many advertisers want to put in a two-bit ad today and reap two dollars tomorrow. Sometimes it is done. That is not what we refer to.

The business builder ad is another question. The ad which will establish confidence by its staying qualities, which works in season and out of season and burns in the name and the business is always before the eyes, is the continuous ad. The greater advertisers of the country realize this and advertise until even our little girls pray that they may be "absolutely pure, like baking powder."

Yet same people say, "When my business is bigger, then I can afford to advertise regularly." The same would say, "When my trees get big and bear good crops, then will I fertilize and irrigate. 'When I get my day's work done and feel strong, then I will eat my breakfast."

Advertising is the life of trade and the stayer is the winner.

* * *

In the poultry line there is a greater following of the "season" than in most other lines of advertising. Yet there are stayers there. Lytle, for instance, all the summer through, will make new and old subscribers aware that he still breeds trophy winning White Leghorns, Black Minorcas, White Wyandottes and Barred Rocks. Next fall, with larger space and a prepared field he will accomplish more than the new comer, whose name appears for the first time.

* * *

Miss Carrington, of Haywards, is a new comer in the Cultivator columns and will be, we trust, a regular advertiser. She centers on single-comb White Leghorns, and has been for years a winner of prizes. We also hope for a communication from her, in which she will tell us wherein she thinks her favorite breed is the best.

* * *

Mrs. Hungerford, of Los Angeles, has the "closest in" yards that are advertised. Only four or five blocks from the busiest part of the city, with big apartment houses all around her, she has a few pens of choice Minorcas, both black and white, and, as well, is beginning with ducks. A larger place outside is expected to be made ready in time for much larger yards, but at present she is growing some exceptionally fine stock.

Strain all milk before sending it to the creamery.

CALIFORNIA CULTIVATOR

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J. J. STEADMAN, EDITOR

C. B. MESSENGER, ASSOCIATE EDITOR AND ADVERTISING MANAGER

FRANK HONEYWELL, BUSINESS MANAGER

SUBSCRIPTION RATES

One dollar per annum in advance. To foreign countries within the Postal Union, one dollar and fifty cents per annum in advance.

Responsible subscribers will continue to receive this journal until the publishers are notified by letter to discontinue, when all arrearages must be paid.

When ordering a change in address, subscribers should be sure to give their former as well as their present address, in order to insure desired change.

Date on wrapper or on address slip shows time paid to, thus: John Smith, 1-04, means subscription is paid to January, 1904

Address all Communications and make Checks payable to Cultivator Pub. Co.

Entered at post office at Los Angeles, Cal., as second class matter.

Friday, June 10, 1904

CURRENT EVENTS.

Want Weather Service—The people of Santa Clara and surrounding counties are making a strong effort to secure government weather service with a station located at or near San Jose. A petition to this end is in circulation also the request that the electric light tower in San Jose be used to flash signals to surrounding country. The petitioners ask that if the Weather Bureau funds are not available for this purpose, congress be requested by the department of agriculture to appropriate a sufficient sum of money to install and maintain this service.

In consideration of the fact that the section in question has over a hundred million dollars invested in fruit, also that the effect of the weather may have vast influence amounting to great injury which warning might lessen, the petition is reasonable and should be granted. The difference between the San Francisco climate and that of the five counties in question is such that the San Francisco report is of slight value to the fruit growers.

The petition has the support of Governor Pardee, many commercial bodies and the best people of the State. May it be granted.

* * *

A "Wilderness" of Red Ink—We don't know just what is meant by the "wilderness" which was an expression used recently at the Pomona Farmers' picnic. But we suppose it's one of the many "red ink" fantasies which are doing duty regarding this grave orange situation. The idea is not to attract attention to the "wilderness" or "red ink" idea so much as to ask whether this is so much of a red ink year as some would have it. Manager Woodford of the Ontario-Cucamonga Exchange and Manager Dreher of the San Antonio, both remarked that this year's returns in the aggregate would be far greater to the members of the Exchanges than ever before. Also that for those who averaged their shipments in the various pools, instead of forcing off most of it during mid-season, there will be an average per box which is not so seriously in arrears of former years.

Considering the vastness of the crop this is not discouraging, though not up our wishes. As Mr. Jennison said at Pomona: He had employed and been employed and never yet had he received a salary but what he would that it were bigger; on the other hand he never paid a salary which might not have been smaller to his satisfaction. So with the orange grower. He will never receive "enough" for his fruit. However price must not go below cost of production, and when it does, a grower is perhaps justified in getting mixed on his figures of speech and springing "wilderness of red ink" on us.

However, let's average up at end of season and see if we haven't more than cost of production.

* * *

Not a Person But a Principle.—The Cultivator is in receipt of an article by a friend of this paper, also of the Fruit Exchange and of President Naftzger, which we are asked to publish. In refraining from doing so, we wish to say a few words as to our reason.

The article contains a strong endorsement of the Exchange and its policy as carried out by its president. At this time, when a fight is being made upon the Exchange and its policy we believe to be the time for cool heads to prevail, and we also believe every member of the Exchange should stand loyally by his institution and its officers, till the examination into the charges is completed. When truth is out, then will be the time for action.

In the meantime let us keep a few truths well in mind—first the Exchange is a private business corporation; not a political affair. When the new directors are elected this summer to handle the crop of oranges for the next season they will be fresh from the meetings of the associations. They, and they alone, will decide the policy for the Exchange; they will elect the new manager of the Exchange; they will make the changes, if any, in the marketing system; they will vote the salaries and on them, as in the past, will the members of the Exchange throw the responsibility for the success or failure of proper marketing. The Exchange does not depend upon one man. It is founded upon a principle.

At this time no more harmful thing could happen to the citrus industry than the raising of a faction amongst the growers, and the Cultivator will not aid in that work. The Cultivator has been friendly to Mr. Naftzger, and will be, whether he is to remain at the head of the Exchange or not for another year, but the growers alone through their representatives can decide.

We would not impute that the writer of the article in question would wish to sustain any one to the injury of the Exchange. Far from it. It is simply our judgment that there is a strenuous effort on the part of the enemies of the Exchange to accomplish its downfall by stirring up contention within the ranks. It must not be. Let there be one sentiment—Long live the Exchange.

* * *

Oranges in Bulk.—We are asked if oranges have ever been successfully shipped in bulk from California. We think not. We know of one instance, the shipping of several cars of oranges in bulk from Pomona some eight or ten years since. The fruit was arranged on a patent contrivance, similar to shelves, through the car, so that no great weight of fruit was at any one point. In theory it looked as if it would work, but in practice we believe the second shipment was never made.

Short Prunes.—San Jose estimates place the coming crop as not over three-fourths of last year's crop, or about a half the average output. This may be unsatisfactory to the grower, yet if he will give the best of attention and grow the largest fruit, followed by careful and honest packing, it may lead to almost or quite as much return to the grower.

* * *

Raisin Growers Getting Together.—The movement to place the raisin association in good, working condition seems to be gathering impetus. Meetings are being held in towns surrounding Fresno and the sentiment which would sustain the association seems to prevail. In an address at one of these meetings President Madsen said: "So long as the trade believes that the association is torn with dissension and on the verge of collapse, it is needless to hope that it will take any more of the holdover than is necessary for immediate needs. With an association assured for three years, the association will be in a position to handle the holdover to advantage."

The effort is for a three-year contract and President Madsen maintains that it will be a growers' and not a packers' association.

* * *

State Fair.—A still greater effort is to be made this year to make the State Fair more of an agricultural fair than an institution supporting gambling. This effort was made last year but the success of the effort was not particularly startling—that is, as to the absence of gambling. The race track and the book makers were the most prominent features.

It isn't a question of morals, but of dollars. The taxpayers are many of them from Missouri, and will wish to know what benefit it is to them that State money is appropriated to maintain an institution where a gang of San Francisco book makers fatten.

Now, if this effort is honest, let agriculturists stand as a man and make a good exhibit.

* * *

How Many Oranges.—The size of the coming crop of oranges and lemons is not of particular concern yet and not possible of a reasonably accurate estimate at this early date, but it may be well to call attention to a point which the Redlands Citrograph makes that there should be care used to prevent too high an estimate. Big crop rumors never tend to stiffen markets. While it may not be wise to use the all-the-peach-buds-frozen tactics of the East, we may at least strive to get nearer the truth than is sometimes done.

Editor Cultivator: Permit a grower of citrus fruits to call attention to the danger of introducing the white fly from Florida. Occasionally we see the advice given to send to Florida for this or that plant. Have we no nurserymen in California who will supply our needs? If growers will get and read bulletin No. 67 from the Florida Experiment station they certainly will not endanger the citrus orchards of California for any or all the ornamental plants grown in Florida. At a joint meeting of a number of Farmers' Clubs, held near Pomona, the following resolutions were unanimously adopted:

Whereas, the white fly is a destructive pest in many widely separated parts of Florida, and

Whereas, since it lives on the native vegetation no part of the State can be said with certainty to be free from the pest, and

Whereas, its introduction into our dryer climate would cause a probable loss to the citrus growers of millions of dollars, therefore, be it

Resolved, by the Farmers' Clubs represented here,

1. That we earnestly urge upon all the patriotic duty of importing no plants of any kind from any part of Florida;

2. That we earnestly request all our horticultural papers to refrain from advertising or in any way encouraging the business of Florida nurserymen in this State;

3. That a copy of the foregoing resolution be given to the press for wide publication.

While Los Angeles county has a stringent quarantine against all Florida plants, yet without the co-operation of growers there is always danger from pests being smuggled through.—E. O. Kennard, Glendora.

From a Man Who Knows

The following letter from C. A. Loud, a poultry breeder of thirty-five years' standing, sounds good to us:

Santa Barbara, Cal., June 2th, 1904.

Cultivator Pub. Co.

Gents:—Enclosed find $1.00 in payment for the best and newsiest paper I ever had the pleasure of reading. It is like an egg. full of up-to-date meat. Will you please change my address from Santa Barbara to Encinitas, San Diego Co. Please do not forget the change, and oblige,

Yours truly, C. A. LOUD.

Here is another from a man who knows:

Lordsburg, Cal., May 24, 1904.

I have had a very prosperous year, and my ad in your paper has sold me all out. I will continue to advertise in your paper when I have any to do. Thanking you for past favors,

T. E. MILLS.

...NEWS NOTES OF THE PACIFIC COAST...

HORTICULTURE.

Washington will have a big fruit crop this season.

The Yucaipe valley cherry crop will be short nearly a half this season.

The California Fruit Exchange is to operate a packing house at Tulare this season.

The late cherries north of Sacramento were damaged by a heavy wind last Friday.

Gilroy is shipping about 100 chests of strawberries to San Francisco daily. Trouble is had by growers in securing sufficient help.

Cherries on the forty acres of trees of the Andrews Brothers, near Redlands, are reported as only about half a crop this year .

The Highland Orange Growers' Association has closed its season's work. The shipment of oranges was considerably more than last year.

The horticultural commissioners of Tehama county advocate the cutting back of new growth on pear trees, to eradicate the blight in that county.

Grapes of the Thompson's seedless variety were shipped from Coachella to Los Angeles last week, nearly a month ahead of any other section.

Work on the new cannery at Visalia is being rushed that it may be in readiness to handle fruit this season. The crop of fruit around Visalia will be large.

Apricot growers of Anaheim and Fullerton have formed an association for the purpose of establishing a dryer to handle the entire crop of the two districts.

The work of packing the Late Valencia oranges, about a dozen cars in all, was commenced at the Porterville packing house last Fridey . They are being sold for $2.25 f. o. b.

The Valencia oranges around Lindsay are now being packed and shipped. The crop is reported as being a little less than that of last year, which was seventy-four cars.

Railroads in Georgia are preparing to ship out of that State 1200 car loads of peaches this season. This will be twice as heavy as last year, which was the heaviest season ever known.

One grower at Watsonville broke the record on shipments one day last week, when he forwarded 165 chests of strawberries and Loganberries. The berry crop is fine there this season.

C. W. Chauncey, horticultural commissioner, says that the peach and apricot crop around Fresno was injured by the frost of a month ago to the extent of half the crop. Grapes were not injured.

The Lompoc Record in its last issues says the apple crop will be very light—not more than a quarter of a yield. Plums, cherries and apricots will also be short, while the peach will be large and pear a fair average.

While the codling moth has never been very destructive in Orange county, yet the horticultural commissioners there have issued notices advising orchardists to commence spraying at once, as this is the best time of the year to exterminate the pest.

From Los Gatos comes the following report on the fruit crop: Apricots looking well; Blenheims crop large; Moorparks light; the fruit late in ripening. Peaches good, pears fair, showing an increase over 1903. Prunes look fine, with promise of large yield. Black cherries nearly all picked, white cherries now ripe and early Royal Anns now being delivered to canneries.

At the annual meeting of the Highland Orange Growers' Association, held recently, the following directors were elected: M. H. Evans, Maurice E. Ginn, Seth Marshall, W. T. Noyes, Pierce Coy, E. D. Roberts and Walter Savage. Seth Marshall was then chosen president. M. H. Evans secretary; Robert Thompson manager of the packing house, and P. F. Coy, bookkeeper. By vote it was decided to pack fruit other than that belonging to members.

In a letter to the California Fruit Grower the North Ontario Packing Co. state that they will change their system of packing prunes this year from the old system of points to grades, and will put up and offer to the trade prunes in three grades, fancy, choice and standards. The fancy grade will include sizes 40-50s, 50-60s and 60-70s combined. Choice will include from 70 to 100s and smaller. It is thought the new system will meet with prompt acceptance by many buyers and in time will supplant the old method.

H. C. Peckham has a fine crop of cherries on his ranch on the Salsipuedes road. Black Tartarian trees 11 years old will yield 350 pounds of fruit, while 11-year-old trees of the Governor Wood and Rockport varieties will produce 500 pounds of cherries each. Single trees of the Royal Ann variety of cherries in California have been known to yield $100 worth of fruit in one season. Profits of $500 to the acre are not rare, while an orchard near Willows containing thirteen and one-half acre produced $7500 worth of fruit the last season, and this was by no means its most profitable year.—Pajaronian.

Several bushels of seedless apples from Colorado are on exhibition at the world's fair. This improved seedless apple, like the seedless orange, is the result of the scientific work of horticulturists. The apple tree is blossomless and the fruit is free from worms and hardy enough to endure the severest frost. The blossomless feature of the new tree is one of its most striking peculiarities and will make it a favorite with fruit growers, especially in cold climates. Already seedless apple nurseries have been started in several States and seedless apple buds are in great demand. John F. Spencer, the producer of the seedless apple, is experimenting with various varieties.

AGRICULTURE.

A farmers' club was organized at Salinas last Saturday.

The potato crop in Orange county will be above the average.

The hay crop in the vicinity of Lordsburg is reported exceptionally good.

The first cantaloupes and watermelons, in car lots, this season, were shipped from Coachella the first of the week.

Over 100 cars of cabbage were shipped from Anaheim up to June 4th. The average per ton received by the growers was about $12.

Six hundred acres of growing wheat near Willows was destroyed by fire Monday evening. The crop was owned by the Murdock Land Co.

The Lodi Sentinel says that the water melon center has been changed from Lodi to Fresno, and predicts that in time the raisin center will be Lodi instead of Fresno.

In the Orange county peatlands the work for next winter's celery crop is now being pushed. The total acreage will be a little larger than last season, being between 2500 and 3000 acres. Last season's output was 1600 acres.

Prof. Clarke, of the State University, is to commence experimenting on the corn worm at Vorden, Sacramento county, where a field of 100 acres of corn has been set aside for the test. The worm has caused great damage to growing corn in past seasons.

The professors in the Agricultural department of the University at Berkeley are carrying on experiments against the red spider in the hop districts of Weaverville. Also at Watsonville the work of exterminating the codling moth by spraying is being continued, while others of the faculty have been battling with the grasshoppers in the Turlock-Modesto district. In the latter place the danger from these pests has been minimized by wholesale slaughter of the hoppers by fire and other means.

LIVE STOCK.

It has been decided to organize a dairy exchange by leading wholesalers in San Francisco.

Nancy Hanks, the famous trotting mare which at one time held the worlds record at 2:04 sold at Readville, Mass. last week for $4000.

Already there is in cold storage in Los Angeles over 700,000 pounds of eastern butter, and it is predicted that this amount will be doubled this summer.

The annual report of the co-operative creamery at San Luis Rey shows that about $15,000 was paid for milk, an increase of $800 over the preceding year.

A new co-operative creamery association has been formed by milk producers at Hynes, Los Angeles county, which is now trying to purchase the creamery already in operation there, rather than put in a new establishment.

The State Dairy Bureau gives out the following figures as the output of California dairy farms: Butter, $8,669,077; cheese, $856,996; condensed milk, $621,233; milk, $6,682,738; calves raised and sold as veal, $1,724,844; pork raised from dairy products, $1,881,264.

A meeting was held at San Francisco last Wednesday, attended by representatives of local dairy produce and egg firms, for the purpose of organizing an exchange. No action was taken other than to appoint a committee to get up some plan upon which all can agree, for the good of the market.

Humboldt creameries paid the following prices for butter fat for the month ending May 15th: Minor, 19 cents; Arcata, 19; Premium, 19; Capital, 19½; Coldbrook, 20; Cold Spring, 19½; Crown, 20½; Eel River, 20; Excelsior, 20¼; Ferndale, 19½; Grizzly Bluff, 19½; Independent, 20; Pioneer, 20½; Riverside, 20; Silver Star, 19½.—Review.

The new Carnegie library at Visalia was opened to the public last Wednesday.

MISCELLANEOUS.

Ukiah is to have a three days' celebration July 2nd, 3rd and 4th.

Ventura will hold a summer festival from June 30th to July 4, inclusive.

A large box factory is to be established at Oakdale, Stanislaus county. Sugar pine will be used.

People living at and near Colusa are subscribing money for the establishment of a beet sugar factory at that place.

The work of gathering the pyrethrum flowers, from which buhach is made, is now in progress in Stanislaus county. The crop is unusually good.

A fine lot of apricots have been shipped from Winters, Yolo county, to the World's Fair for exhibit. This is the first lot of apricots to be sent out of the State this season.

Several 15-inch wells are to be sunk on the great Irvine ranch in Orange county, from which it is believed sufficient water can be developed to irrigate a large part of the ranch.

The committee from the Fresno Chamber of Commerce is again endeavoring to secure a contribution from the Raisin Growers' Association of 100 tons of seeded raisins for free distribution at the St. Louis fair.

Lake county wants a railroad and now has two parties interested in building one from Ukiah to Lakeport. One of the parties proposes to build an electric, while the other wants to put in a steam, standard guage road.

The 3300 acre ranch in the northern part of Santa Barbara county belonging to the Newloves has enhanced in value in the last few years from $30,000 to a million, which was recently offered for it. Proximity to oil did it.

The new canal to Holtville in the Imperial valley is to be completed by July 1st. It will be 2¼ miles long, 50 feet wide at upper and 150 feet at lower end, from 10 to 16 feet deep and have a capacity of 70,000,000 gallons.

The Sperry Flour Company, the largest flour manufacturing concern of the Pacific coast, formed a partnership with the Tacoma Warehouse and Elevator company, last week. The company will immediately erect a 1000-barrel mill at Tacoma.

A fire at Riverside last Saturday resulted in a heavy loss to the S. P. Ry. company in cars and buildings, and to the Riverside Heights Fruit Company packing house, machinery, about fifteen cars of oranges and other stock. The fire was caused from defective electric line wiring, the loss being about $50,000, with insurance not to exceed $20,000.

The preliminary test of the rock crusher recently purchased by the county was made last week on the Los Angeles road leading west from Ontario. It was purchased at a cost of $4200. Supervisors Glover and Reid were present as was also George Cooley, by invitation. While but a preliminary test, it was highly satisfactory and will doubtless accomplish its 100 tons of rock a day. Mr. Cooley reports that the traction engine operating the machiney is everything claimed for it. San Bernardino will now be better equipped than ever to have the finest oiled and macadamized roads in the State as well as the best kept.—Citrograph.

C. H. SESSIONS, ASSOCIATE EDITOR

Just About Milking . . .

It is not every one who milks cows that knows how. After having tried all the methods on the great many cows I've milked I have about come to the conclusion that I can get the milk from a cow with as much ease and convenience to myself and comfort to the cow as any one, writes A. Secor in Kimball's Dairy Farmer.

The first consideration is the anatomical construction of the udder. Many do not know that the teats are in pairs. The two front quarters are seldom of the same capacity or formation as the hind quarters of the udder. The teats on those quarters differ also.

I've seen milkers take a front and hind teat either both on same side or diagonally across. I was taught that way, but soon found that they didn't come out even. Very generally the hind quarters give the most milk, and the front teats are larger and milk out faster than the hind teats, so the result is uneven.

I've seen the new method of milking published in different papers lately. The manipulations seem complicated, but they are not. They differ only slightly from the method I've followed for a few years.

In the first place, I milk as near twelve hours apart as I can. The cows expect relief at that time and are uneasy if not milked on time.

When I drop my stool beside a cow she steps over it, or if not I put a finger on her and she takes her position. I never say "get over there—now hist." A touch of the finger does the whole business of getting the right position.

With a wet cloth I wipe off the udder and teats after brushing loose bedding and dirt from the belly and legs. This manipulation is sufficient to start the milk.

As a rule I begin with the back teats because they are generally short and when full of milk difficult to get hold of. Besides, I prefer to strip, if that has to be done, when my grip is rested, then change when tired to a full hand grip on the front teats. By getting hold of the back teats just as the cow begins to let the milk come you can get and maintain a better grip than to wait until the back quarters are full of milk and the teats reduced in length by the pressure of milk. Still another reason is that the cow wants relief from the back quarters first. They are squeezed by her legs, they give the most, and she is restless till they are emptied, at least partially.

When tired of milking or stripping the short hind teats I go to the front ones and then back to the others if necessary for rest of muscles.

After getting all I can in the ordinary way I then reach up with thumb and forefinger of left hand and squeeze the milk from the milk cisterns of each quarter and force it from the teat with the right hand. This is easy when one gets used to it. It takes out every drop of milk and does not hurt the cow. It does away with the strip, strip, dribble of the common method.

The exceptions to this rule are these: A cow may have a sore hind teat. By beginning on the well front teats and then quietly changing to the sore teat the cow is not so apt to make a fuss as if you begin with a sore teat and get her nervous for the whole milking.

Some cows are so constructed that it makes no difference where you begin milking. I generally give my finger muscles the choice then.

When a boy I broke my little finger twice playing ball. I never missed a milking because of it. It taught me how to fold that finger up and use the rest. To this day I milk short teats with the little fingers doubled out of the way. I can milk teats that others would have to strip.

When a cow has a sore teat I try to put the palm so it will not be squeezed. Sometimes the teat has to be twisted part way around. Somtimes I have to change hands—that is, milk a left-handed teat with the right hand. But, really, there is little need of having sore teats if the fences are good and loose wire picked up, and vaseline used on cows that get in the mud.

As to the position of the cow, that is easily managed. Teach her to put her right hind foot back to the edge of the gutter. Put your knee in front of her leg and that foot has to stay there. She can not put the left hind leg back any farther than the right one and if she puts it forward, all the better. Let me say that a cow can get out of position with her front feet just as well as with the hind feet. She can put her left front foot way back and throw her belly towards you so you are crowded into the gutter. Or she may put both front feet back and thus force her udder back between her legs so even the front teats can scarcely be milked. In either case the front feet can be placed in position by pushing your right shoe against them. She soon learns her position.

Some cows have the miserable habit of stepping over and keeping the milker hitching over to her. Make her stop it. You can feel when she is going to pick up a foot. Reach through with the right or left hand and catch her leg on the cord above the knee and jerk the foot back in place or hold it if she has not yet straddled out. If she can't locate the left hind foot she can not pick up the right one. A few lessons are sufficient.

I don't begin on a heifer to force her to a correct position. The main thing is to teach her to trust you while milking. She may get into all sorts of awkward positions as she turns to lick your neck or chew your coat tail, but she can gradually be taught to keep a good position.—Farm and Floral World.

All farmers should keep good milk cows.

CLEAN OUT THE SILO.

Peep in the silo occasionally, see for yourself, and ascertain how low it is getting; experience has taught a good and wholesome lesson in this respect. "Silo is empty" comes in the report from the men, when as a matter of fact there is two or three feet of good ensilage left in the bottom, and which would be left over for another year, with the new silage on top, were it not cleaned out.

There may be some of it unfit for feed; it can, however, be profitably removed to the compost manure heap. It will also make an excellent mulch wherever a mulch is needed. Where we want to retain the moisture as much as possible, it is the very thing to plough under. If some of our agriculturists studied as much about soil conservation as they do about the prices of sugar or coal oil, they would have heavier pocketbooks at the end of the year.

This is a time of the year when the silos are getting low, and when properly cleaned out now they are not only ready when the rush comes at refilling time, but in the meantime they are being well aired and smell sweeter—flavor of milk, if your silo is in close which is also a factor in influencing proximity to the milking.—Jersey Bulletin.

Quality and uniformity are main factors in butter.

The dairyman sells his forage crops to his cows and thereby saves time as well as money.

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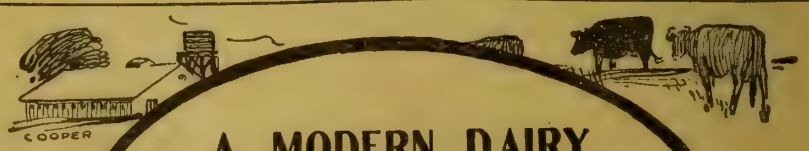

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Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3; Idlewood, 6.2. Choice young stock for sale.

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Contagious Abortion . . .

The symptoms of contagious abortion are as you see the animals before they abort. Some of them have to be very carefully observed. They vary much, whether early or late during pregnacy; in the first month or two during pregnacy about all to be noticed (or it may pass unnoticed) will be a clot of blood around the butt of the tail, or below. During the later stages it resembles normal delivery, except that more effort in straining and force is required to expel the foetus. It is very important to recognize an animal before she aborts, if it is going to be a case of abortion, so as to prevent it if possoble. Any sickness in a pregnant animal should lead to a close examination with regard to swelling or passage of mucous, or pus. See if she is trying to strain, which she may do a day or two before abortion takes place, or have pains.

Treatment: The most important is to prevent, if possible, and often this can be done by getting the cow away from the rest of the herd. In case of having abortion among the cows you want to burn the foetus, all the bedding, and everything that comes in contact with it. Keep the rest of the cows away from that place, and away from that cow also. If it is not possible, then remove the cow away from the herd; get her off to herself and burn everything. Then take lime, antiseptic, or carbolic acid solution, with water, and sprinkle over the place where abortion took place. Scatter the lime over thick, and having the cow away put her all to herself where no other cattle can get near her. Often it is a good plan to use an antiseptic solution, or solution of carbolic acid, to wash the cow all over, or over any mucous or over anything that may be on her. Cleanliness is one principal thing in this case. Keep her away from other cows for thirty days. You must not go among the other cows with the same clothes on; remove them, have all the smell off yourself. Often even a small thing like that will cause abortion; it seems to upset the nervous system. You must not touch the other cows; keep them from the germs.

When you see a cow acting as if she was going to abort, put her into a quiet place; a dark stall is the best place for her. If straining, give her a good dose of laudanum, 1 oz. dose, and if that don't stop the straining repeat it in a half hour, or an hour. Put it in a pint of water. If you do not know how to give her a drench, write and I will give you instructions.

For prevention, keep everything clean around the cow. Don't allow a cow about with filth hanging to her. Have her good clean feed and water. Be very particular about the water being pure, and wipe the cows. See they do not become bound up and constipated. Keep from bad smells, sudden frights, abuse, or hounding by dogs.

You may read so much in the papers nowadays of wet brewers' grains and all sorts of things being "the cause of abortion," when you know it is the smell caused by the carelessness of someone in slopping these feeds into crevices in the floors, etc., where they ferment and create an odor at the rate of seven knots an hour—sufficient to give the strongest cow a shock to her nervous system; and when the cow, especially in pregnacy, has to throw her head back in disdain of her surroundings you know what happens to the nervous system. It is just as necessary to keep a clean stable as it is a clean house. There are other matters I could bring to your attention in regard to prevention, but they are more applicable to other longitudes.—Jersey Bulletin.

* * *

Also, on the same line, we give the following query and answer from Hoard's Dairyman:

Ed. Hoard's Dairyman:—Please tell us of some preventive or remedy for contagious abortion in dairy cows. Some dairy papers advise powders to be given in feed, others injections per vagina; quote us some relief, anything will be appreciated.

The editors of this paper can do no better, perhaps, than to state their own experience and method of dealing with this dread disease, which is mainly in the way of prevention or lessening its effects as much as possible.

In the first place contagious abortion is a germ disease. We believe it is mainly conveyed by the bull. It follows then, that the bull should never be allowed service with a cow that is infected.

(1) To this end, such cows are given thorough injections with some disinfectant—and there are several—for two to three months after abortion, and in the meantime not bred.

(2) It is often well to disinfect the bull also.

(3) Thorough care is taken to disinfect the stables and calving stalls. This will also be found of advantage in preventing white scours in the young calves. A mysterious connection exists between the abortive germ and white scours in calves.

(4) The disease seems to prevail mostly among heifers with their first calf. Heifers that have been bred should never be allowed to run with heifers or cows that are not in calf, as they are apt to bring on abortion by riding the others when in heat.

(5) Cows that have aborted are apt to become shy breeders and difficult to get with calf. Never allow a cow in heat to run with the other cows.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

The Palm Glen Jersey Herd

Is being gathered from Island and Eastern breeders and as heifers freshen all will be offered. Imported Sultane's Golden Fern 65304, at head of herd.

A. B WHITE - PALMS, CAL.

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Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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J. A. CAMPBELL WE HAVE SOME GOOD ONES C. W. CAMPBELL

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One young bull for sale, ready for service; blood of Ida Marigold, sweepstakes over all breeds at Chicago World's Fair; Merry Maiden, sweepstakes all three tests same fair; Lily Garfield, champion 8-year-old in milk, same fair; grandson of Dot's Violet W, 1st prize Cal. State Fair; crossed with St. Lambert.

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Herd headed by the proved greatest sire ever in the State. Sired 10 winners at last State Fair. Nothing for sale.

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ALSO

MELIA ANN'S LAD and a YOUNG TORMENTOR BULL

The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address

James Houston - Duarte, Cal.

(6) Cows finally become immune to abortion, and rarely have it again after once passing through a stage of it. We have in our herd today a magnificent Guernsey cow that has aborted for two years. We gave her special attention and were rewarded last January, by her carrying her calf the full time. She is now giving over 40 lbs. of 5 per cent milk. Had we become discouraged with the cow as some do, we would not have her today.

It is a good thing to secure also the judgment of some skilled veterinarian. But eternal vigilance is the price of success with this disease.

"IN BREEDING."

Editor Cultivator—I think exceptions should be taken to the article "In Breeding," in issue June 3, by C. W. Campbell.

He does not clearly define "In Breeding" and his plea is rather for "line or family breeding." Mr. Geo. E. Peer has not inbred but combined two distinct families—the "Melia Ann" pure Victor Hugo—having no Stoke Pogis blood, with Lugo Stoke Pogis, a pure St. Lambert, and now he has secured his aim, and introduced an out crop by securing a son of Letty Rioter. He dare not inbreed now. No greater injury has ever been inflicted upon pure bred horses. Short Horns, hogs, Jerseys than inbreeding. I have seen the Alpheas, St. Heiliers, Lady Mary's, Coomassies and Jerseys go down in ability and usefulness by in and in breeding; and nothing has saved pure bred animals but judicious outcrosses. To fix certain tendencies and dairy qualities a moderate degree of close breeding will do if animals are strong and healthy, and that can best be attained by breeding a half brother to a half sister and not by close incestious breeding a daughter to her sire or a cow to her son. That should not be done except in rare instances and by a master in the art of breeding. To advocate promiscuous inbreeding is unsafe, and will lead to weakness, barrenness and loss of usefulness.—A. B W.

SELF SUCKERS.

In another column is a query and answer regarding self sucking cows. The last number of the Jersey Bulletin contains the following which we insert:

Some years ago I treated one of my best cows for this pernicious habit, giving her a thick padded collar to wear around her neck. It was no practical use, and moreover, it was humiliating to look upon her, not only when feeding, but especially at the watering trough. Then I split her tongue and ever afterwards felt as if a criminal. Since then, the University of Wisconsin has, through Professor Carlyle, devised a means of preventing heifers and cows from sucking themselves. The device is given herein and after seeing the logic of it, you can try it on your cow. The cost will be about 30 cents, viz.: a self-ringing copper bull ring, which can be bought at your hardware store for 25 cents, and also a couple of iron harness rings, same size, for 5 cents. The only directions I can give you are, before inserting the copper bull rings, place the two iron harness rings on the bull ring so that they will always hang loose on the ring. Oil the bull ring before inserting.

Next in importance to judicious feeding and kind treatment is punctuality—a regular time for both feeding and milking.

JERSEY TRANSFERS.

Recent transfers entered by the American Jersey Cattle Club are as follows:

Bulls—Bave's Rioter 62503, C. H Williams to Umstead Bros., Los Angeles.

Addition 61498, J. A. and L. E. Wilkes to J. S. Ellis, Santa Ana.

Sibyl's Silver Pedro 66178, H. West to Harry Julian, Sacramento.

Cows—Mirth of Echo Glen 158081, D. B. Thompson to E. M. Wheeler, Santa Ana.

Pedro's Princess Ring 178186, D. G. Whiting to Mrs. Edith F. Dickson, San Bernardino.

Pussy Primrose 71121, W. W. Crosier to J. C. Galoway, Santa Ana.

Trustee's Pet 167176, C. W. Leffingwell Jr. to C. W. Campbell, Buena Park.

Velas Maggie 160018, C. W. Leffingwell, Jr., to J. A. Campbell, Buena Park.

SALTING COWS.

Salting the cows is one of the little things that is sometimes lost sight of under the pressure of other and what is regarded as more important work, but a trial recently made at the Mississippi Experiment Station indicates that inattention to this point may be a rather expensive oversight. Three cows were kept without salt for four weeks and their milk record kept during the last two weeks of this period; then they were given the usual allowance of salt for two weeks, and on comparing the milk records it was found that the cows gave 454 pounds milk during the first period when salt was withheld and 564 pounds during the second period when salt was furnished, a difference of 110 pounds of milk in two weeks in favor of salting. —Wallaces' Farmer.

VALUE OF THE PURE BRED COW.

Speaking of a very valuable Jersey bull, the California Cultivator says. "His daughters are mostly from grade cows, and, while good dairy cows, are not so valuable for breeding puroses." It was well said, and well that it was said, and worthy of repetition. The breeding value of pure bred cows is not generally appreciated. Good grade Jerseys are often found equal as dairy workers to registered Jerseys, but there is the uncertainty whether their heifers will be like them in capacity, or "take after" some inferior, obscure ancestor in the grade. Don't forget to take into account the breeding of pure breds when buying cows for the dairy.—Jersey Bulletin.

ABOUT THE DAIRY.

A really good cow possesses an extremely nervous temperament—for this reason it is bad policy to frequently change milkers.

It is often a practical waste of feed to attempt to fatten an old cow which has been a heavy milker. Sell such for what she will bring and save the feed.

Indigestion causes a cow to stop "chewing her quid" and in such cases her stomach rather than her mouth, needs attention. Providing an artificial "quid" for a cow is the rankest of quackery.

Milkers with long finger nails are responsible for many of the kicking cows. Aside from vicious hooking the cow's "kick" is about her only means of protesting against treatment that causes her pain.

This is the season of the year when we hear of "hollow horn" and "wolf in the tail" in some localities—simply other names for extreme debilitation as the result of lack of proper food and shelter.

Cows about to calve at this season should be afforded comfortable shelter and laxative feed. A day or two before calving a hot bran mash with epsom salts, ginger and molasses will serve as a tonic laxative and will bear repeating after calving.

Cows kept on dry feed throughout the winter are now ravenous for green feed and care should be taken when they are turned on rank clover or alfalfa lest bloat results. An hour's grazing each day for a few days until they become accustomed to it is a precaution that will pay.—N. W. Horticulturist.

AGE OF A HORSE.

"The groom that came to Chester with Old Abdallah, the sire of Hambletonian, fifty-five years ago," said a veteran Orange county horseman to a New York Sun reporter, "told me how to tell the age of a horse, and it has run in my head ever since. This is the way it ran," and he repeated the following rhyme:

To tell the age of any horse,
Inspect the lower jaw, of course.
The six front teeth the tale will tell,
And every doubt and fear dispel.

The middle "nippers" you behold
Before the colt is two weeks old;
Before eight weeks two more will come,
Eight months, the "corners" cut the gum.

The outside grooves will disappear
From middle two in just one year;
In two years from the second pair;
In three the "corners," too, are bare.

At two the middle "nippers" drop;
At three the second pair can't stop;
When four years old the third pair goes;
At five a full new set shows.

The deep black spots will pass from view,
At six years from the middle two;
The second pair at seven years;
At eight the spot each corner clears.

From middle "nippers" upper jaw,
At nine the black spots will withdraw;
The second pair at ten are white;
Eleven finds the corners light.

As time goes on the horsemen know
The oval teeth three-sided grow;
They longer get, project before
Till twenty, when we know no more.

THE OXYGEN TREATMENT FOR MILK FEVER.

Here is a demonstration that is wonderfully convincing as to the merits of the oxygen treatment for milk fever:

Thirty-one of the Jersey cows at the World's Fair test in St. Louis, have calved and nine came down with milk fever. All of them were subjected to the oxygen treatment and recovered successfully. It is evident that the attack made but little functional difference with them, for they are reported as doing excellent work at the pail. We take this as a most triumphant demonstration of the great value of the oxygen treatment.—Hoard's Dairyman.

GREAT PRICES FOR JERSEYS.

Cooper's recent sale of Jerseys is reported to be the greatest of all recent importations. It made greatest record for the past twenty years. Ninety Jerseys averaged approximately five hundred dollars. "Blue Belle" brought thirty-six hundred dollars. "Flying Fox's Proclamation" twenty-three hundred dollars. "Foxes" made new record in prices.

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles

Editor Cultivator—My horse scours continually, food does not seem to digest, rectum is inflamed and dark colored fluid passes with every dropping. What can I do to relieve and cure the horse. Answer through Cultivator please.—R. B. B., Hollywood.

Have the teeth examined and if necessary put in shape. If the teeth are all right, give physic to clean out the stomach: Raw linseed oil 1 qt., turpentine 2 oz., laudanum 1 oz., give at one drench; follow up with the following 3 days after, if the horse is not better: prepared chalk, willow charcoal and tannic acid of each 3 oz., mix and give tablespoonful night and morning.

* * *

Marshall C. Hayes—The twin heifer will breed just the same, one being male and the other female, makes no difference.

—F. A. MEACHAM—
BREEDER AND IMPORTER OF
RED POLLED CATTLE
SHROPSHIRE AND
AMERICAN MERINO SHEEP
Both Sexes For Sale
Live Oak Ranch PETALUMA, CAL

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Berkshire and Poland China Hogs
Young Stock of Both Sexes For Sale
W. C. MURPHY & BRO.
PERKINS. SACRAMENTO COUNTY, CAL.

THE U. S. CONTINUES TO WIN
At the Illinois Buttermakers Meeting, Springfield, Ill., March 30-April 1, 1904,
The Butter that Scored the Highest was made from U. S. Separator Cream
by Mrs. W. M. Corrington, the Winner of the Dairy Sweepstakes at the Illinois State Fair last Fall.
The Best Separator Produces the Best Product
which accounts for the large number of prizes won by users of the U. S.
Remember also
The U. S. Separator Skims the Cleanest
Holds World's Record
Wears the Longest
Has Low Supply Can
and many other features of excellence, which make
The U. S. the most Profitable Separator to Buy.
Write for catalogue giving full information.
We have the following transfer points: Portland, Me., Sherbrooke and Montreal, Que., Hamilton, Ont., La Crosse, Wis., Minneapolis, Minn., Chicago, Ill., Sioux City, Ia., Omaha, Neb., Kansas City, Mo. Address all letters to
Vermont Farm Machine Co., Bellows Falls, Vt.
367

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

SUCCESS OR FAILURE, WHICH?

"Does poultry thrive and raise easily n your section of the State?"

"What kind of a market would I ind were I to start an egg farm?"

These are two of the many questions I have received in the past week from people in the east. This man does not ask as so many do, " is there money in poultry?" or "can I make a living in the poultry business?"

He is not a novice in poultry breeding and should he come here will probably make a success of it. The poultry business is not mere child's play and to succeed in it requires the same care, energy and elements of success that any outdoor business needs. "Can you make a living at anything?" I ask. "Why, yes, I think I can," replied one man. "What has been your business in the east?" "Truck gardening in Chicago," he answered, "and I raised a few hundred hens; they did all right for me there." My unexpressed verdict was "you will succeed." My voiced reply was, "I am without help and if you like to come for a time to work with me you will learn the conditions in this climate. The conditions are different here and the treatment of all stock differs more or less from that in the east." That man has now a poultry ranch of his own and I have no doubt but he will make a success of it. He loved animals, the dogs, the horse, the chickens, ducks, turkeys, guineas, all returned this affection, were all so tame they would follow him anywhere, would permit him to pet them or take them up; they felt that he liked them and understood them and they reciprocated his kindness.

* * *

Two young Englishmen came to my ranch one sunny morning. "We are going into the poultry business, have heard that you are very successful and Mr. Allen advised us to come and see you about it." "I shall be glad to help you if I can," I said. "Which branch of the business will you take up?" "Well, we've heard that there's a broiler plant over in Pasadena where they get 50 cents a piece for broilers only eight weeks old and they can't supply the trade, and we've heard that the demand for fresh eggs is greater than the supply, and we've been round and find we can make contracts at some of the restaurants, so we think it's a pretty good thing."

I thought it was counting their chickens before they were hatched, but merely asked: "What did you come to see me about?" "Well, you know, we've been told that we'd better get your stock to start with, or at any rate your eggs." I then told them I had no stock except a few culls I intended to market and would not sell for breeding. " How many eggs do you want?" "Well, we've bought four Cyphers incubators, large size, to hold three hundred and thirty eggs, and we're going to have them hatch one every week to commence with; later on we'll have thirty and have them hatch every day. We would like you to fill our incubators every week." I tried to dissuade them, but finally consented to fill two incubators. They expected the incubators that week and wanted the eggs to be at their place, the "Inimitable Ranch," the same day, so they could start in as soon as possible. I told them the incubators ought to be run several days to be sure of the heat, etc. They said twenty-four hours was sufficient and as I advised them to allow the eggs to rest twenty-four hours they would be obliged if I would send the eggs on that day. They also begged to have the culls as they would be good enough to lay eggs to make only broilers. I consented. They tried the business for about six weeks, then thought there was not enough money in it and sold off everything at a loss. They consider the poultry business does not pay, whilst I consider them the failures. The element of success was not in them.

* * *

The poultry business can be made very successful in this State. The prospects near Los Angeles never looked brighter, for the influx of home-seekers grows with every month and these new arrivals must have eggs and chickens. The commission men here tell me it is impossible for them to supply the demand without sending to Kansas City for fowls and eggs. It seems too bad to send all that money away when our own people by making a little effort might keep it at home. The "trusts," so far, have not invaded the poultry business. In the east there are great poultry plants and specialists, but the farmers and those with small flocks get the same prices and the same chances, if not better, for the smaller flocks as a rule pay the best.

* * *

Ten years ago the poultry business in this country, as an independent business, was insignificant as compared with the present business, and there is good reason to believe that the next ten years will show still greater progress. It cannot well be otherwise. Men of means and brain are rapidly taking up the business, the financial risks are growing less as the business is becoming better understood, snug fortunes are being made at the present time in the different branches of the business, and this is but a promise of the future.

* * *

The prices in the various branches as the business increases, strange to say, show no signs of diminishing. There is no "trust" in the poultry business and probably never will be. As the great cattle ranches in the Middle West and Far West are taken up for homesteads, cattle breeding for market will be confined to smaller farms and in limited numbers, and the price of beef will continue to grow higher until it rivals the price in Europe, where beef is a luxury for the rich. There are now one-third less cattle in the United States than there were two years ago. How shall we feed our increasing population?

Our government, realizing the great importance of the poultry industry as disclosed in the census returns of the last three decades, has become interested. The Bureau of Animal Industry took up the question some years ago and now regularly issues valuable bulletins for free distribution, giving detailed instructions and advice for use in the production of "better poultry and more of it," and for obtaining a larger egg yield per hen.

* * *

"Profitable Poultry Keeping" describes how about twenty States of the Union are conducting poultry plants on

Willard Poultry Yards
202 S. Grand Ave.. Los Angeles, Cal.
Mrs. F. T. Hungerford, breeder of high-class Black and White Minorcas, White Wyandottes and Indian Runner Ducks. Nothing for sale from July 1st until Sept. 1st. After that remember us for duck eggs and fine young cockerels.

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From good, strong, healthy
S. C. White and Brown Leghorns
$1.00 per 15, $4.00 per 100
Satisfaction guaranteed
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$1.00 per 13—$4.00 per 100
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Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
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Egg at $1.50 per 15.
Circular Free.
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F. S. LOW & CO., PETALUMA, CAL.
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Golden Laced Wyandottes
Eggs of Ideal Strain. 15 Eggs, $1.00
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IF RIGHTLY HANDLED
The best hatches come from stolen nest. The Natural Hen Incubator (patented) assures equally good results and is guaranteed to cost less money, time and trouble to operate than any other now in use. Hundreds of testimonials prove it. Needs only a few minutes' attention daily. 100-egg size costs about $3.50. Copyrighted plans $1. Plans of brooders, 20c and 50c.
A. A. Welch, Azusa, Los Angeles Co., Cal.

TAKE NOTICE
When one gets ten to twelve dozens of eggs per day, as I have been getting for about two months past, it counts, but they all go. Just up with orders. Have sold nearly 7000 eggs for hatching purposes, 90% of them W. Minorcas; balance White Rocks and W. Wyandottes. Will continue to fill orders. If eggs from my stock are wanted write to
S. W. MORGAN, SUNNYSIDE, CAL.

MATURED
Standard Bred
Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
Buff Orpingtons (Riddell Strain)
S. C. W. Leghorns (Emery Strain)
Only Birds That Have
MOULTED
are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

CARRINGTON'S WHITE LEGHORNS
Eggs for hatching from PRIZE WINNING and utility bred stock, by the sitting, 100 or 1000, also breeding stock of all ages for sale. Write for folder giving prize record to
C. B. Carrington Hayward, Cal

FREE! FREE!
The 1904 Catalogue B
Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
Must Hatch Incubator Co., PETALUMA CAL.

Fair Oaks Duck Farm
Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.
James Hague, Proprietor
350 College St., Oakland, Cal.

Eggs for Hatching
Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
LOUIS S. FLETCHER, ANAHEIM. CAL.

READY FOR BUSINESS
Lice and Mites are always ready for business, and for ridding the roosts, houses and old fowls of these great life destroyers, you must use
Lee's Lice Killer
and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is
Devil's Dust with D. to L. Ointment
HENRY ALBERS 315 S. MAIN ST., LOS ANGELES, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at Late Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR GIVING SHOW RECORD AND PRICES
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White and Brown Leghorns
Have won more prizes at the leading shows than all competitors combined. At the State Fair, San Francisco, and Seattle shows, the past season, they have demonstrated their superiority by winning the lion's share of the First Prizes. Not only this, but at the great Chicago Show in January we won five out of a possible six prizes, creating a sensation among Eastern breeders For the finest stock on the Pacific Coast, write us. Eggs, either variety, $2.00 per 15; $5 00 per 45; shipped safely to go any distance. Incubator lots at reduced rates. SEND FOR CIRCULAR.
LARGE BIRDS AND LAYERS OF LARGE EGGS
Williams Bros., Expert Leghorn Specialists, Box A. FRUITVALE, CAL.

their State experiment stations, or in connection with the State agricultural colleges. At many of these colleges regular poultry classes have been instituted, the members ranging from twenty to thirty each term and including as students men and women who are above the average in intelligence and education. These students, as graduates, are finding positions as managers of poultry yards, as lecturers at Farmers' Institutes, or are entering the business for themselves. Numerous other public and semi-public institutions, including farm schools, industrial schools and various charitable institutions, are conducting poultry plants and instructing the students or inmates in practical poultry work, with a view to qualifying them for earning their living and taking up poultry production as a business, either in the employ of others or independently. There are poultry schools and lectures, which are carried on by correspondence, in which information of all kinds is imparted. All this is "something new under the sun" and points to a bright future for the poultry industry in its several branches.

* * *

ANSWERS TO QUESTIONS.

Editor Cultivator: Kindly tell me through the columns of the Cultivator how one may tell drakes from ducks in a flock of Indian Runners?—Monrovia.

The females in the duck family talk much louder than the gentleman of the family and may be recognized by their loud "quack, quack," whilst the males whisper as if they have a sore throat, or make a queer whistling sound. This is the first indication. Later, when the plumage is mature, the drakes have a dark cap on their heads and a feather in their tail with a little curl in it. Later still, they can be known by their actions.

* * *

Editor Cultivator: Will you kindly answer what is the matter with my hens? Last night I saw one of my Plymouth Rock hens, not sick, but her head was like a dry scab, and apparently foam seemed to be coming from her eyes. I killed her right away, thinking it a disease; and today another hen had symptoms of the same trouble, had started near her ears and her comb looked dry and bloody, as if she had been in a fight, and one eye was closed; it seems to affect the eyes; she was poor, but still had a good appetite. —Mrs. M. A. G.

Your hens have "sore head," or chickenpox. It is an ulcerative disease of the fleshy parts of the head, comb, face and wattles. It is caused by a parasitic fungus like the chickenpox of children. It is very contagious and it affects both young and old. The young many die from it, but the old generally recover. The treatment is to anoint the spots well with carbolic salve, or carbolated vaseline, and wash them off with warm water and soap in about two days and repeat the vaseline. They usually recover in about a week if treated in this way, otherwise the ulceration will spread over their heads and become most serious. Young chicks frequently succumb to the disease. A little sulphur in the food is beneficial.

Deacon Johnson: "Do yo' fink yo' kood support mah daughter ef yo' married her?" Jim Jackson: "Suttingly." Deacon Johnson: 'Hab yo' ebber seen her eat?" Jim Jackson: "Suttingly." Deacon Johnson: "Hab yo' ebber seen her eat when nobody was watchin' her?"

HOME-MADE EGG TESTER.

Time was when one was bade "not to count their chickens until the eggs were hatched," but today, in the light of better knowledge along this line, there are certain methods that determine at least what eggs will not hatch.

Take a piece of pasteboard, 4½x8 inches is a convenient size, the cover of a shoe box or letter paper box cover will do very well, cut a hole a little smaller than a 50-cent piece as near the center as possible. After dark, at night, go to the building where the hens are setting, carrying a good lamp, a basket with a warm flannel cloth in it, and the above described egg tester. Set the lamp in a safe place, remove the eggs from the nest to the basket having the flannel cloth. Now take an egg in the right hand and the card in the left. Hold the hole of the card quite close to the lighted lamp and by placing the large end of the egg to the hole in the card the contents of the egg will reveal whether the egg be fertile or not. If it is perfectly clear, it should be discarded, if dark return to the nest. The testing can be done as early as the fifth day, or may be delayed until the tenth day for any doubtful eggs, until one becomes familiar with the aspect of the egg contents during incubation.

Care should be taken in handling such eggs. The new life that is in process of development is so frail that at certain periods rough handling or long exposure to a sharp change of temperature might destroy it. If one will remember that the embryo always floats at the top side of the egg, some time will be saved in testing by placing the egg "top side up," just as it comes from the nest before the tester.—Farmers' Sentinel.

DISCARDING INFERTILE EGGS.

One of the greatest losses from artificial incubation is in neglecting to make use of clear eggs. Clear eggs are infertile eggs and they are not injured by being subjected to a high temperature. They usually are perfectly good after remaining in the incubator for several days. If any one doubts this let them take three eggs, one fresh laid, one that has been in the incubator five days, and another in the incubator ten days. Cool them all to the same temperature and test them. An expert can not tell the difference except in flavor, and to do so he must be an epicure.

HOW TO MAKE HENS BROODY.

It takes lots of grace to deal with a "settin' hen." In spite of "purgatories," duckings, she will continue indifferent to your endeavors and remain broody. Now we have a query as to how to make them broody. Here it is, clipped from Farmers' Record:

At times we have valuable eggs to set and no hen to incubate them; in order to get a broody hen, we select one which we think would make a good sitter and a good mother. This hen we feed five times daily all the whole corn she will eat; whole corn lays on fat: fat increases the heat in the body, makes the hen lazy and in turn she concludes "she wants to set." About six or seven days feeding as above will make 75 out of every hundred hens broody.

Separate milk at its temperature at milking time.

Trade Mark for West Coast Chick Feed.

The above cut is no fancy sketch but is made from a photograph taken of birds that have been, and are being fed on West Coast Stock Food Co.'s goods. The large bird took first prize at Los Angeles Show, December, 1903. His sire took first at Los Angeles Show, 1901, as cock, and first at Pasadena Show, 1900, as cockerel. They have all been raised on West Coast Stock Food Co.'s foods.

FEED WEST COAST CHICK FEED

And raise prize winners. West Coast Chick Feed makes it possible to successfully raise little chicks, turkeys and ducks. They like it. It keeps them healthy. Prevent disease and promote health and growth by feeding West Coast Chick Feed. It is all feed, no waste; cheap in price; best in quality.

WEST COAST
Stock Food
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They are guaranteed to be as represented. Do not be deceived into using any other kind. All are made only by

THE WEST COAST STOCK FOOD CO.

PASADENA, CALIFORNIA

Call for and demand West Coast Stock Food Company's goods.

There May be Other Chick Feeds, but People Do Not Want Them

I want to thank the thousands and thousands of people that are using

CHAMBERLAIN'S PERFECT CHICK FEED

for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.

The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.

Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo

GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

FERTILITY AND EGG PRODUCTION.

Experiments have been made at the Ontario station in the production and fertility of eggs and Prof. Jarvis, who was in charge of the work, makes the following report concerning it:

"Ten laying hens were separated from the male. The eggs laid each day were placed in an incubator and their fertility tested.

"Of the eggs laid during the first four days after the male was removed 70 per cent were fertile, of those laid on the fifth day, 61 per cent, on the sixth, 60 per cent. on the seventh, 49 per cent. on the eighth, 12 per cent, on the ninth, 2 per cent, and on the tenth all were infertile.

"A test was made with six laying hens to determine the time which elapsed before eggs become fertile after a male is introduced. On the third day 30 per cent of the eggs were found to be fertile, on the fourth, 42 per cent, on the fifth, 50 per cent. on the sixth, 60 per cent, on the seventh, 70 per cent, on the eighth, 68 per cent, on the ninth, 70 per cent, on the tenth, 74 per cent.—Farmers' Record.

GOOD BREEDS FOR BROILERS.

Two tests by the South Carolina station are briefly reported on the most satisfactory breeds of chickens for broilers. In both tests ten chickens of each of the following breeds and crosses were included: Barred Plymouth Rock, Silver Laced Wyandotte, Indian Game, Indian Game and Pit Game crossed with Barred Plymouth Rock, and Silver Laced Wyandotte crossed with common hens. The feeding period covered twelve weeks, all the chickens being fed for the first week after they were hatched a bread made of corn meal and wheat bran and buttermilk; during the second week bread, beef scrap and German millet, and from the third week until the close of the test, bread, beef scrap, cracked corn and cracked wheat with milk or buttermilk once a day, in addition to green feed (rye, lettuce, rape and kale).

In the first test the smallest gains were made by the Silver Laced Wyandotte crosses, weighing forty ounces per chicken at the end of the twelfth week. The greatest gains were made by the Indian Games, Barred Plymouth Rocks, weighing forty-six ounces. In the second test the smallest gains were also made by the cross-bred Silver Laced Wyandottes, these chickens weighing forty-one ounces at the close of the trial. The greatest gains were made by the Pit Games-Barred Plymouth Rocks, weighing forty-six ounces. According to the author "The Wyandotte, Indian Games and Plymouth Rock cross and Pit Game and Plymouth Rock showed a plump breast. The Pit Game and Plymouth Rock cross, the Plymouth Rock and common cross, and the Wyandotte had most feathers. The Indian Game had very few feathers but was plump. The cost of feed per chicken for eight weeks was 7.5 cents. The cost of feed per chicken to twelve weeks was twelve cents. The cost for feed when this experiment was made was unusually high. No account of green food given was kept."

H. S. Thompson reports the champion egg producers. They are Indian Runner ducks. In two months, sixty-one days, eight ducks produced 402 eggs, or an average of fifty each. Must be an egg laying strain which Mr. Thompson has. He says his orders for eggs are booked way ahead.

In discussing the feathered tribe, give facts, not fancies.

What is prettier than strutting gobblers, or more toothsome than young barnyard fowls.

The day is dawning when the poultry raiser will diversify, instead of being a specialist.

Poultry raisers should study conditions and set hens when eggs do not bring a good price.

Guinea fowls cover a wide range while feeding, and for this reason are invaluable as insect destroyers.

Pure water and cleanliness pave the way to success in raising fowls, while the man who can succeed with foul odors in his hen house "is a bird."

When a fowl becomes crop-bound it should be relieved as soon as noticed. Knead the crop with fingers to soften the mass and it will frequently pass off all right. Cotton seed meal is good for fowls. Too much of it may do serious damage. The meal is very fattening and for that reason should be fed sparingly to matured fowls. Mulberry trees have always been recommended for poultry yards—good shade and fruit. Give your chickens plenty of fine gravel for grit, and also feed crushed charcoal every now and then. A little copperas in drinking water will be an excellent tonic and aid to better digestion.—Farm and Ranch.

BARN YARD HINTS.

Mange—For dog with mange, wash thoroughly with soap and water, using a scrub brush to soften up the scabs, then use a solution of Zenoleum, one to sixteen, on the skin, rubbing well in. Repeat the Zenoleum application daily for three days. This will also remove lice and fleas.

* * *

Mange on Hogs—Take sulphur 1 part, oil tar 2 parts, and Beaumont oil or raw linseed oil 8 parts, mix and apply to the affected animals.

* * *

Worts on Cows' Teats—Clip warts and touch bleeding surface with tincture of iron.

* * *

Sore Eyes—For horse with sore eyes, discharge of mucus, use a caturated solution of boric acid in distilled water in the sore eyes.

"We're going to celebrate Grandpa's golden wedding anniversary next week." "But your grandfather is dead, isn't he?" "Yes, but some of the invited guests don't know it."—Cleveland Plain Dealer.

Stern father—That young fellow stops every night till an unearthly hour, Dora. What does your mother say about it?

Daughter—She says men haven't altered a bit since she was young, pa.

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

Is a good book, well worth the subscription price. Every person handling chickens will get valuable pointers by reading this book, which tells in a short, concise, practical manner the best method of raising and marketing chickens and eggs. Sent postpaid to any address for $1.25.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

HATCH IN SEASON—NOW
Selected Eggs, Guaranteed First-Class, $1.50 per Setting of 13
S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS
Eleanore Poultry Ranch
1½ Miles East of Glendale
P. O. Address, Garvanza
Incubator Chicks Hatched to Order

NO MORE LICE
after using
PRUSSIAN LICE KILLER

NO SICK CHICKS
when you feed
CHAMBERLAIN'S CHICK FEED

PLENTY OF EGGS
by feeding
DARLING'S BEEF SCRAPS

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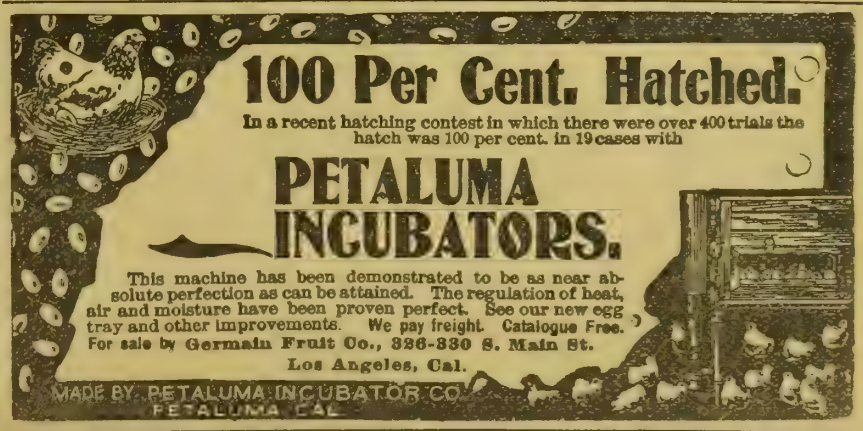
Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen
Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22.
Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders
T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY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In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
For sale by Germain Fruit Co., 326-330 S. Main St. Los Angeles, Cal.
MADE BY PETALUMA INCUBATOR CO. PETALUMA, CAL.

Emery's Pure Meat Meal
Ask your nearest dealer for them and take no imitations.
Don't believe all we say, but just enough to buy our Poultry Foods
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

SAVE THE CHICKS
Peerless Chick Feed is the best balanced ration of pure, clean seeds, grains, meat meal, charcoal and grit known to the poultry breeders. The benefit derived by its use is marvelous, and is endorsed by all who have tried it. Prices: 100-lb. bag, $4.00; 50-lb. bag, $2.00; 24-lb. bag, $1.00; 5-lb. package, 25c.
HENRY ALBERS, 31 S. Main St., Los Angeles

Coulson's Balanced Ration Egg Food

An Egg and Feather Producing Food Prepared to Feed to Adult Fowls

A Balanced Ration for Laying Hens

Knowledge is Power

Exterior View of the A. R. Coulson Co., where Balanced Rations for Poultry Are Prepared, Carloads after Carloads.

A Flock of Beauties Fed on Coulson's Foods.

The better you can understand what makes hens lay the more money you can make out of your hens. Ask the average poultryman why a hen lays, and nine out of ten times he cannot tell you.

Some people think that a hen lays so many eggs every year, no matter what you feed them. If that be the case then why not feed them sawdust and hay?

You may scoff at this, but there are many poultrymen feeding their hens cheap mixed feed, composed chiefly of ground oat hulls and ground corn cobs and ground rice husks.

Then there are a large number of poultrymen who feed only wheat, corn, and barley, giving the hens too much carbo-hydrates and not enough protein. The result is that the hens gradually become fat and soon they will become broody and will want to set. While the young hens may manage to lay some, because by extra exertion they may be able to transform some of carbo-hydrates or take the substance called protein from their own bodies, gradually they will become fat and be poor layers.

But if they were fed on the right kind of egg-producing food how much better all the hens would do. Why, they would lay two or three times as many eggs.

Some people think that a hen has so many eggs and will lay them in time, but half of the eggs never develop because the hens do not always have the proper food.

If you will feed Coulson's Egg Food, you will get twice as many eggs and make twice as much money out of your hens.

Some people think that the fowls can get plenty of bugs in the summer so that they don't need any meat or egg food, but the amount is not near so much as they ought to have.

Coulson's Egg Food is a lean and narrow ration and you can feed more, as it is an exclusive egg producing food and not fat producing.

Start in now and make the hens lay abundantly for the next three or four months and have the hens moult in July.

Feed Coulson's Egg Food every day this year and you will have good luck and plenty of eggs.

Coulson's Egg Food gives the hens rich blood, nice glossy plumage and makes the eggs come.

CONTROL YOUR HENS.

To make hens pay you must make hens lay.

An egg that measures 6¼ inches by 7½ inches was laid by a hen fed on Coulson's Egg Food.

Coulson's Egg Food makes hens lay because it contains all the most egg-producing articles known to science today.

There is no excuse for any one nowadays not being able to make the hens lay abundantly. Of course, a hen cannot make eggs out of nothing. The richer and better egg-producing food one can give the hens, the more they will lay. There are some certain articles necessary to make hens lay that mose people neglect to give them.

Coulson's Balanced Ration Egg Food contains the right kind of rich meals that a hen can easily digest and turn into eggs. One man feeds $2.15 worth of this food every day and gets back nearly 700 eggs from the hens. This is proof that you can feed Coulson's Egg Food and make a profit from your hens. Testimonials coming in every day. Trade increasing every day.

Come in nad let us show you all of the good rich meals that make this food. It takes sixteen different articles and each must be a certain proportion. We prepare this food so that it is already mixed ready to feed as the morning mash, and we sell it to you at factory prices, giving you a good chance to make some money out of your hens, for if you will feed this according to directions you will certainly get plenty of eggs every day.

MAKE MONEY

This year out of your hens. Feed the hens on the very best egg-producing food and make them lay lots of eggs.

Feed them once every day a warm mash of Coulson's Balanced Ration Egg Food and you will make money out of your hens.

Why? Because Coulson's Egg Food is rich food and makes rich blood, healthy hens and good layers.

Coulson's Egg Food puts into the hen the kind of material that the hen puts into eggs, so that a hen fed on Coulson's Egg Food can lay every day and not get run down. When your hens are laying good they need good rich food to keep them up.

If you feed your hens a meal a day of Coulson's Egg Food you will have healthy hens and plenty of eggs, and will make more money of of the poultry this year.

Price of food, 1 sack, $1.65.

These are Petaluma prices. The price in other towns will be more, according to the freight. In Santa Rosa, Sebastopol, Tomales and surrounding towns the price will be 10 cents a sack higher.

If your feed dealer hasn't got it, send your order to

200 STORES IN CALIFORNIA SELLING THIS FEED

THE A. R. COULSON CO.

MANUFACTURERS OF POULTRY REMEDIES, CONDITION POWDERS, POULTRY FOODS, ROUP CURE, LICE KILLER, ETC. WHOLESALE AND RETAIL

PETALUMA - CALIFORNIA

A GARDENER'S TRIP.

We left Los Angeles on the Coast Line train, 1:40 p. m., and passed through the flower-laden San Fernando valley. Sandy and hot as this section generally is, no portion of the country shows so many blossoms and of such varied hues as that between Los Angeles and the Chatsworth tunnel. Through Ventura and Santa Barbara counties the plant life, both wild and cultivated, is much the same. At 10:30 p. m. we reached San Luis Obispo and there remained two nights and a day. Though flowers are not so much in evidence (either native or exotics) no spot in California is at present so richly green as the little valleys running in every direction from this quaint old town. Out in the Charro valley, just a mile away and where the California Polytechnic school is situated, the grain is not ripe enough to cut for hay. This condition of the vegetation is due to late and abundant rains and unusually heavy fogs during May. The school above noted is situated on high ground, overlooking the town and surrounding country, an ideal spot for such an institution, and the director, Prof. Leroy Anderson, is very enthusiastic over the outlook (in more ways than herein expressed).

Leaving San Luis Obispo at 7:00 a. m., Thursday, we climbed the mountain and in that climb gradually lost sight of the beautiful verdure, for going down on the other side all is dry—the hay and grain all harvested. Not until near San Jose did we find the country once more alive with various shades of green, such as we see around Los Angeles, though all through Monterey county and the small portion of San Benito that we passed through, the country was alive with orchards. The famous Watsonville apple district was first noticed by reason of the freshly sprayed trees, the ground around and the branches above being sufficiently white to testify to a fight against insect pests with lime as one of the ingredients. The fine city of San Jose strongly reminds one of Los Angeles, though the surrounding country is much more level. After a short stay we hurried on to Palo Alto, where we stayed for twenty-four hours. Here we first called on the veteran, Prof. I. P. Roberts, just retired, after many years of service, from the directorship of the Cornell Agricultural College, in which he was succeeded by Prof. L. H. Bailey.

Friday morning was spent in the grounds and buildings of Stanford University, which is noted as having the largest endowment of any like institution in the world—and it looks it. To pass four years in the midst of such surroundings is in itself an education such as would broaden and strengthen the life of the most ordinary individual. We found Prof. Dudley, head of the botanical department, at home and he kindly showed the writer through grounds and buildings, neither of which will ever be surpassed on this coast, for each strengthens the other and all is planned and carried out on a grand and liberal scale. Leaving Palo Alto in the afternoon we next stopped twenty-four hours in San Francisco and Oakland, visiting the University of California Saturday morning, but, alas! all had fled (in whom the writer was interested, at least). The botanists were scattered afield, in all parts of the State—our good friend, Prof. Wickson, left two hours before for Yosemite valley, accompanied by two sons and two daughters. However, we found he has a very interesting garden of fruit trees and flowers and in the midst of it we found the Professor's father, a sturdy old gentleman of 83 years—in good health and in possession of all his faculties, bearing his years rather lightly. The grounds of the university are very disappointing—nature has done much—man nothing. The next legislature should make some provision for the planting and maintenance of the grounds of this our chief State institution.

Saturday we left for a few days' visit at Stockton, a city fast improving in looks, and also growing in size and population. All the country around this city seems to be in a prosperous condition. On Tuesday, just a week after leaving Los Angeles, we took the train for Ione, where we will be located for the next year at least, and of which I will write at some future time.

ERNEST BRAUNTON.

THE FERN DISH.

The fern dish is the finishing touch of elegance to the simplest table. Have you not many times admired the center piece (upon some luncheon table) consisting of a fern dish set in a silver filagree jardiniere and wished with all your heart you could afford such a dainty accessory to your own table? Indeed, yes. But the prohibitive price asked at a florist's, has made many of us resign all idea of possessing one. It isn't really the silver which attracts our attention. There may be many other silver articles on the board. It is the green things growing, airily, bewitchingly before us, and while the silver may set off the green tracery of leaf and stem, yet other material could be used to decorate the plainness of the dish.

So I set to work. I bought a "fern dish," simply a flower pot, broad and shallow. To the woods I went, bringing home leaf mold, and a root of Maidenhair fern, called Crow's foot. It has five fingers on its black stems. The mold had a handful of sand mixed with it and the fern was tucked carefully in the dish. That was the beginning. I then rooted a flowering begonia, Argentea guttata, and put that in the dish. The object in a fern dish is to have small plants. When they grow large, the fern dish can not be used for a center piece. Besides the begonia went a cyclamen bulb raised from seed, and then a couple of other wood ferns, the coffee fern, and the gold back, both small delicate ferns, native in California. This was my first dish, but I learned the art of making them up differently. Suppose you are using Eastern ferns which rest during the winter. Do not put in flowering begonias, but use gloxinias, achinenes, cyclamen, or tuberous begonias, as these all rest during the winter. When the dish is in full greenery and you desire to use it on the table, decorate it with tissue paper, or silk, the color of your table decorations, and no one will notice the absence of silver filagree. Do not use reds or blues, but soft greens or creams, or pale pinks or yellows which will harmonize with the greenery and not antagonize.

As the principal object of a fern dish, is ferns, I will name some pretty ones. There is the Davidiana, which in time grows large, but while small is very pretty in a fern dish. The maidenhairs one and all belong to the fern dish, in fact, I think the fern dish was "invented" especially to set off the maidenhairs. In California we have the gold back, a maidenhair with the black stems and a glittering back which looks as though dusted with gold; the coffee fern, small round leaves like coffee beans, both remaining evergreen the year around, if kept watered. The Pteris variegata has leaves margined with white, and is ever green and Nephrolepis Duffi is a very dainty small leaved fern, nice for the fern dish.

In making up fern dishes, I aim to use plants with delicate foliage, a bulb or two for flowers, and ferns. The artillery plant is especially pretty in a fern dish, as is also the plumosus asparagus. When they grow a little too large, they can be cut back, or removed. Begonia multiflora is also a pretty plant on account of its many small leaves. Whenever a fern dish grows ragged looking, remake it. One can have two or three in various states of development so that one perfect one is always on hand. If I lived East, I should have a dish of native ferns and lilies of the valley put away in a cold cellar where it could freeze up until February and then bring it into the warm rooms. And I would have one of maidenhair and sweet violets for early spring. One can get more delight out of a fern dish than from a whole conservatory of big plants. There is something so interesting in the slowly uncurling fern frounds, it fascinates a plant lover.—Vicks Family Magazine.

* * *

For decorating the dining table Asparagus plumosus nanus is very pretty and desirable, and easier to grow than most of the delicate ferns. Like those, it should always be placed in a light window between meals. By training the long shoots low down around the pot or dish instead of above, it will be more suitable for the purpose, and a large plant may be used longer.

For special occasions Asparagus Sprengeri is admirable. Use a medium sized plant placed in a suitable jardiniere (or fern-dish by covering the upper part of pot with crepe paper). Arrange all but the four finest branches over the top, so as to completely conceal the soil, and around the sides in as graceful a manner as possible. Then spread each one of the four long sprays out over the cloth to its own corner of the table, and I feel sure you will be delighted with the effect. —Vicks Family Magazine.

B. H., San Diego, wishes to know where he can get Scutellista Cyanea to place in his citrus trees.

Alexander Craw, Room 11, Ferry Building, San Frencisco, will supply colonies of this insect.

HOMELY HINTS.

Care of the Refrigerator.—Keep it well filled with ice. Keep the ice chamber perfectly clean and the outlet open. Do not put any form of food upon the ice or in the ice chamber. Put the milk, meat and butter on the bottom—the coldest part of the refrigerator; the vegetables on the next shelf and the fruit on the upper shelf. This arrangement will prevent one article of food from tasting of another.

Brooms should be rested on the handle or hung in order that the bristles may remain perfectly straight; they should never be used for scrubbing. Brushes are made for this purpose.

Iron saucepans should be dried over the fire before being hung in the closet.

Nails and household tools should be kept in the kitchen closet near the range.

Salt may have mixed with it a little corn starch, which will absorb the moisture and prevent caking; powdered sugar should be kept in a wooden box.

Home-made Coloring for Kitchen.—A pretty pink coloring for kitchen or pantry walls can be made by dissolving whiting or lime in cold water, and adding to it enough permanganate of potash to give it the desired shade. Add a little liquid glue and apply as you would whitewash. A pale yellow shade can be made by substituting a little yellow ochre for the permanganate, and the ordinary blue bag will supply that shade.

To remove the coating from the interior of a tin tea kettle fill it with water, to which has been added a large piece of sal soda, and let the water boil for about an hour, at the end of which time your kettle should be free from any foreign substance.

To Test the Heat of the Oven.—Place a piece of white paper in it. If too hot the paper will speedily blacken or burn up; if it is a delicate brown, the oven is fit for pastry; should the paper turn dark yellow, cakes may be baked; and if only light yellow, sponge cakes and biscuits may be set in the oven. Put a spoon of flour on an old dish and set in oven; if it browns in sixty seconds the heat is right for bread.

Rust on Cooking Utensils.—The cause of rust and a rough surface on cooking utensils is that they are not wiped perfectly dry. Wash the articles in hot soapy water, rinse in hot water and rub dry with a clean towel. Keep special towels for this purpose. Wash and dry them every day.

A cure has at last been discovered for leprosy. Dr. Isadore Dyer of New Orleans, has been treating a young boy, 15 years old, who for the past three years was afflicted with the terrible disease, who is now entirely cured. For centuries leprosy has been an incurable scourge and only recently was it discovered to be a "germ disease."

While the apple crop in the Pajaro valley will be short this season, other products, such as berries, potatoes, grain, onions, etc., will be extra good, which will help Watsonville to maintain its standing as one of the most prosperious towns in the State.

"ITS PENNY WISE"

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe ave., Los Angeles.

I WOULDN'T BE CROSS.

I wouldn't be cross, dear; it's never worth while,
Disarm the vexation by wearing a smile.
Let hap a disaster, a trouble, a loss,
Just meet the thing boldly, and never be cross.

I wouldn't be cross, dear, with people at home,
They love you so fondly, whatever may come,
You may count on the kinfolks around you to stand,
O, loyally true is a brotherly band!
So since the fine gold far excelleth the dross,
I wouldn't be cross, dear; I wouldn't be cross.

I wouldn't be cross with a stranger—ah, no,
To the pilgrims we meet on the life-path we owe
This kindness: to give them good cheer as they pass,
To clear out the flint-stones and plant the soft grass.
No, dear, with a stranger, in trial or loss,
I perchance might be silent; I wouldn't be cross.

No bitterness sweetens; no sharpness may heal
The wound which the soul is too proud to reveal.
No envy hath peace; by a fret and a jar
The beautiful work of our hands we may mar.
Let happen what may, dear, of trouble and loss,
I wouldn't be cross, love; I wouldn't be cross.
—Margaret E. Sangster.

FIVE LITTLE PIGS.

Five little pigs all rosy and pink
Are shut up in a pen black as ink;
All day long in a close, dark pen
They wriggle and twist about, and then—

This little pig went to market
To buy some crackers and cheese,
But instead of a lunch
He bought a big bunch
Of fresh mignonette and sweet peas.

This little pig stayed at home
And said with a heart rending wail:
"The air is so damp
It will give me the cramp
And take all the curl from my tail."

This little pig had a piece of bread and butter,
"I'm tidy," quoth she, "tho' I'm fat."
Then it dropped on her gown
The buttered side down,
And, oh, how she hiccoughed at that!

This little pig had none—
Not a crumb of a morsel of bread,
So he swung on the gate
Until it was late,
And then he went hungry to bed.

This little pig said: "Wee, wee, wee,
I can't find my way home!"
But no wonder the rogue went astray,
For he ran down the street
When he heard the drums beat,
And he followed the circus all day.

Five little pigs as pink as a rose!
They're only the baby's tiny toes;
And before they are tucked in the blanket tight
I'll seize them and squeeze them,
And kiss them good night.
—Youth's Companion.

An Error in Translation

He had first helped her when she was changing trains at St. Paul and in imminent danger of taking the wrong one. Then, he had very calmly and decisively taken charge of herself, and her sachel, and her umbrella, and her shawl strap—and put them all into the proper seat in the Pullman, before she could think of declining. Only after she was settled did it ocur to her that he was a total stranger, and she had been told to beware of obliging strangers.

It was too late then, and afterward, with all Miss Norwood's eastern bringing up and consequent distrust of chance acquaintances, she could not be properly cold and distant to one who had been of such service.

Besides, Miss Norwood felt it would be of no use anyway—he was so inevitable about it all, quite as if it was the most natural thing in the world that he should continue his protection. Wherefore it came about that the afternoon of the second day out from St. Paul found Charles Harrington seated beside Miss Norwood under the claim of explaining western scenery to her eastern eyes. Perhaps it was this that made it necessary for him to look at her eyes so often.

This was Miss Norwood's first visit west and she was disappointed. It had not come up to her expectations. The Indians had hidden their nobility under more dirt and tatters than she liked, and the people—

"Why, I haven't seen anyone who looked like a desperado yet," she said as one who desired her money back. "I expected to get glimpses of 'gun fights' at stations when the train stopped—one prominent citizen shooting across the street at another prominent citizen—or a horse thief being hung, or have the train held up, or something."

"One wouldn't think you were so bloodthirsty, to look at you," laughed Harrington. "You seem peaceable enough, but that only shows how little one can judge by appearances."

"I hope I shan't be disappointed in 'the Rockies,' but I'm afraid I shall, I've heard so much about them. Now, if I didn't know we were coming to any mountains, and then we did—if they came unexpectedly it would be much nicer."

Mr. Harrington's mind moving rapidly, instantly formed a syllogism. This young woman liked the unexpected. He represented the unexpected. Ergo, she possibly liked him, at least she ought to if there were any virtue in syllogisms.

"I hate to be told beforehand what a place is like—or a person," went on Miss Norwood. "When a friend says: 'I want you to meet So- and so. You'll like him so much. He is so handsome, or clever, or funny, or sings so well.' I always form a mental picture of So-and-so, and always a disagreeable one. Don't you—or are all men above prejudice?"

"It depends on the friend a good deal."

"It doesn't with me. For instance this friend I am going to visit, she's been writing to me of a man she is sure I will—like—and all that nonsense, you know. He is to be there while I am, and—well, I can see just what sort of a man he will be, and I know I shall dislike him."

"What's the pattern? I wish you would tell me for my guidance," Harrington said, and then added, hastily, at a danger signal in Miss Norwood's eyes, "so that I may know what your sex dislikes and avoid it."

"I can't say my sex does dislike the pattern," she replied. "It's only my own opinion. This friend of mine doesn't, for one. She has planned that this He is to be there, and I am to meet him, and, of course, he is to fall desperately in love with me, and I with him, and we are to live happily ever afterward out here, where this friend of mine and I can see each other every day, as we did when we were girls. Of course, nothing of the kind will happen now."

"How do you know it won't?"

"Because, already I dislike the man—and he does me, probably—at least, if he has any notion why he's brought there to meet me. She says he's a mine owner and a bank director and a leading citizen, and, therefore, I know that he is stout and bald, and wears black broadcloth and a goatee. I am sure of the goatee—a yellowish-white one. And then she says he's such a thoughtful man, and that means, when translated, that he is one of those fussy men that are everlastingly waiting on you—or jumping up whenever you move, or mothering you about drafts or wraps or chairs. And he is so genial and hearty and breezy! I can see him perpetually smiling, and rubbing his hands and glowing. Do you like people who glow?"

"It's not really criminal, you know."

"Of course, it's silly to feel that way, but I feel a positive dread of meeting that man."

"I know what you mean. To tell the truth, I had a dread, too. There was to have been some sort of girl on board this train for me to take charge of—but my luck was steady—she didn't turn up."

"How do you know it was lucky? She might have been charming."

"Like you, I prefer the unexpected, and besides, she couldn't have been. The letter that told me to meet her said her friends always thought of her as 'Sunshine'—she's so bright and cheerful. Ugh!"

"Then you don't like brightness and cheerfulness?"

"Not that sort. She's one of those girls that go about saying that 'somewhere else the sun is shining.' I know them. Also, this girl is 'interesting'—that is, she is thin and pale, with a high, dome-like school ma'mish forehead."

"But wasn't there any description by which you were to know this young lady?"

"I—I didn't read it very carefully and at the train I forgot to look—but today I went through the other cars, but there was no girl like her."

"What was she really like? I am interested to know. I don't mean your notion, but the description of the friend who wrote?"

Harrington dove into his pockets, and after some search brought out a crumpled envelope, which had evidently been forced impatiently out of sight. He unfolded the sheet and found the place.

" 'She is of medium height,' " he read out, " 'with brown hair, rather wavy, and blue eyes. Of course, I can't tell how she will be dressed, but if you see a girl with an interesting, bright face, and a particularly fine, determined chin, it is Constantia.' "

"Constantia!" said Miss Norwood faintly.

"Yes. Did you ever hear such a name? I never did."

"And she has brown hair and blue eyes, and a determined chin."

"Exacly. A determined chin—that means her mouth shuts together like a vise."

"It doesn't. I've been told I have a determined chin—and I have wavy brown hair, and blue eyes, also and my name is Constantia, and I am deeply obliged for the bother you took to look after me. How grateful Alice will be, too!"

"But I didn't think for a moment you were she," he protested feebly as the "determined chin" went into the air. "How was I to guess? You were so different."

"Uninteresting, I suppose, and stupid—and doleful. Thank you!"

"You know I didn't mean that," he protested, "and, anyway, I carried out my instructions. I did meet you, I did put you on the right train and I have helped you. You said I had."

"Yes, but it was me you helped, not her. It's not at all the same thing. Here's a poor, escortless girl taking a journey alone, and you leave her to take care of herself as best she can and never even try to hunt her up. Is that a sample of Western chivalry? I think it was abominably rude and unkind and thoughtless!"

"Well, at any rate, if that's so," said Harrington cheerfully, "it let's me out. You said you didn't like thoughtful men."

"That's very different."

"It doesn't happen to be, because, if you are Alice Morgan's friend Constantia, I am the man who is going to stay with the Morgans in Helena; the man who is to fall in love during the stay; the man you were drawing fancy pictures of a while back."

He paused to get the effect of his words and then added approvingly: "You're not a bit pale now. I wonder how I could have ever supposed you would be."

"And you let me tell you all that silly chatter, and never said a word! It was perfectly horrid of you."

"How was I to know? Your description wasn't a bit like me. I'm not even bald."

"I know you're not. I didn't get anything right."

"And you'll cry quits and forgive my neglect to the other Constantia?"

"Yes—but you don't deserve it, for it might have been me."

"Couldn't," he said positively. "You couldn't be anyone but yourself—and I being what I am could help but—"

That sentence hardly makes sense as it stands, but you see the end of it was lost to the world in the noise of the whistle as it blew for Helena.

However, it is believed that Miss Norwood heard it, for four months later she answered it. Her answer was, "I will."

It was very nearly the last words Miss Norwood ever said.—Louisville Courier Journal.

Eastern Excursions

DATES—June 15, 16, 22, 23.
July 1, 2, 7, 8, 13, 14.
August 8, 9, 10, 18, 19.
September 5, 6, 7, 8.
October 3, 4, 5, 6.

LIMITS—Good going on day of sale, with stopover east of California; transit limit 10 days. Good 90 days for return, stopover anywhere.

SEE GRAND CANYON

ROUTES—Santa Fe and connections going. Different route returning if desired.

RATES—

St. Louis and return		$67.50
Chicago	"	$72.50
New York	"	$108.50
Boston	"	$109.50
Philadelphia	"	$107.50

And other Eastern Points
These rates for direct lines

TRAINS—Tickets are good on all Santa Fe trains, including the California Limited semi-weekly.

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E. W. McGEE, C. P. & T. A.
200 So. Spring St. Los Angeles, Cal.

SANTA FE IS THE WAY

RECIPES

Eat Little, but Have That Little Good

Broiled Mackerel.—Freshen for several hours in clear water, changing the water once if the fish is too salt. Then wipe dry in a cloth and broil slowly over a clear fire, turning often, as the merest suspicion of scorching will injure the flavor. Place on a warm platter, dot with bits of butter and chopped parsley.

* * *

Apple Cream Pudding.—Fill a baking dish with alternate layers of chopped apples and slices of thin bread and butter, sugaring the apples and scattering cinnamon and grated lemon peel over them. Finish with the bread, moisten with a cupful of hot water, and bake half an hour. Cool and serve with whipped cream or plain cream and sugar.

* * *

Breakfast Dish.—A dainty breakfast dish is thus made: To cold corned or roast beef, minced and freed from gristle or strings, add an equal quantity of mashed or sliced boiled potato. Mix well together and season with pepper and salt. Put into a frying pan a large cupful of boiling water, with half as much gravy from which the fat has been skimmed, and a teaspoonful of made mustard. Boil up briskly before stirring in the chopped meat and potato. Toss and stir until the contents of the pan are like a bubbling, smoking heap. Add more boiling water should the meat and potato absorb the liquid too rapidly, and do not let the hash stick to the bottom of the pan. In the absence of gravy, double the quantity of butter, dissolving in boiling water.

* * *

Lettuce Sandwiches.—An entire leaf of lettuce cut in ribbons with scissors, put between thin slices of buttered white bread and season with mayonnaise. French dressing or salt as preferred. Lettuce should always be crisp and only the heart leaves utilized.

* * *

Cream Cheese and Ripe Olive Sandwiches.—Stone and chop the olives fine and beat into a cream cheese, adding a little cream to moisten and salt and paprika to season. Green olives may also be used in same way. Spread between slices of white or brown bread.

MEDICINAL EFFECT OF LEMON JUICE.

The curative value of lemon juice is not as generally known to people at large as it should be. Prof. Heinze made a careful series of experiments in which he determined the influence of this juice upon the growth of various forms of germs. He found that the destructive power of the juice was very great. Profs. Wees, Oppler and others confirmed his observations, and hence they may be considered reliable.

If the juice of the lemon has such marked deleterious action upon germs, and especially upon some forms which are the cause of epidemic types of diseases, it is certainly a valuable agent for the restriction of typhoid fever, malarial fever, cholera, erysipelas, scarlet fever, la grippe, etc. In all of these fevers, the juice should be daily used and well diluted. This will allay thirst, and promote the action of the skin and kidneys.

It is also an excellent gargle for all kinds of sore throats, acting as a local germicide. In mild cases of dyspepsia and acid eructions after meals, the same have been relieved by well-diluted lemon juice.

In the disease where the walls of the blood vessels become soft or gelatinous or become hard and bone-like, losing their elasticity, the prolonged daily use of the juice will retard the disease and finally restore the walls to their normal or healthy condition.

A dilute solution of juice makes an excellent wash for all foul-smelling sores, pus-forming surfaces and cavaties.

Fat people can have their superfluous flesh picked off by using a dilute solution of the juice daily.

In dysentery and diarrhoea nothing is better than flushing the bowels with large quantities of a warm solution of dilute lemon juice every two or three hours.

In lung diseases, and cold and coughs, the juice should be largely used in hot soffee, hot lemonade or in glycerine.

As for the teeth, the juice beautifies, preserves and cleanses them to perfection.

In skin diseases, the juice is a natural cleanser and beautifier; it is a cleansing, healing and invigorating skin food. It removes blackheads, moth patches, freckles, pimples, wrinkles and dandruff from the scalp or head. It prevents and cures chapped hands and lips, prickly heat and poison oak.

One great drawback to the free and constant use of lemon juice is that the fresh fruit and juice keep but a limited time and consequently the loss and decay is considerable. This difficulty, however, has been overcome, since a process has been found by which the juice is preserved for years.

The process is as follows, viz: The expressed juice is poured through a cloth and then mixed with about one-fourth of its volume with powdered talc, whereupon it is shaken about one-quarter of an hour; next, it is placed aside for one-half hour, shaken again, allowed to stand, and filtered. Filter through paper, add to the filtrate 10 per cent of sugar and bring to a boil. During this time place the bottles to receive the juice in a kettle of water, fill them with water, and boil them in the kettle. Empty the bottles pour in the boiling lemon juice as quickly as possible, and close up at once with a good cork previously dipped in paraffin. Juice prepared and bottled in this manner possesses unlimited keeping qualities.—Australian Farm and Home.

Where Summer Breezes Blow.

WOMAN'S OPPORTUNITY.

Whenever your life touches another life, there you have opportunity. The finest, the most delicate, the most irresistible force lies in the mutual touch of human lives. To mix with men and women in the ordinary forms of social intercourse becomes a sacred function when one carries into it the true spirit. To give a close, sympathetic attention to every human being we touch, to try to get some sense of how he feels, what he is, what he needs; to make in some degree his interest our own—that disposition and habit would deliver any one of us from isolation or emptiness. There is but one sight more beautiful than the mother of a family ministering happiness and sunshine to them all, and that is a woman who, having no family of her own, finds her life in giving cheer and comfort to all whom she reaches, and makes a home atmosphere wherever she goes. Though she have not the joy of wife and mother, she has that which is most sacred in wifehood and motherhood. She shares the blessedness of him who, having no home nor where to lay his head, brought into other homes a new happiness and who spoke the transforming word, "It is more blessed to give than to receive."—Philadelphia Times.

Don't try to eliminate the old-fashioned virtues—many have tried it, with indifferent success. No good substitute has yet been found for simplicity, frankness, sobriety, industry and sincerity.

It is only by labor that thought can be made healthy, and only by thought that labor can be made happy.—Ruskin.

"I wouldn't like to marry an auctioneer," remarked Miss Northside. "Why not?" asked Miss Manchester. "Auctioneers are all more bid men." "And I wouldn't like to marry a road commissioner." "Why not?" "He is likely to be wayward."

"He seems to take after his father," said the visitor. "I don't when they is apple dumplings," volunteered the little boy. "He don't leave none to take."

James R. Townsend Francis M. Townsend
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SALT LAKE ROUTE

The weather and crop conditions for the week ending June 6 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary—The temperature was nearly normal and the weather generally clear during the week. Light rain fell in some of the central and northern districts. Dry northerly winds prevailed in nearly all parts of the State.

The damage to the grain crop by the long continued dry winds cannot yet be estimated, but it is said to be quite serious in some places, and the late wheat is undoubtedly being injured very materially every day. Hops, corn, beans and garden vegetables have also been considerably damaged. Barley harvest is progressing in the Sacramento and San Joaquin valleys, and the yield and quality are reported fair. Early wheat is maturing rapidly and will soon be ready for harvest. Haying is completed in some sections and baling is in progress; the yield and quality are very good in most sections except the south. Sugar beets and beans are in fair condition. Pasturage is dry, but still plentiful in most places Stock are moving to the mountain ranges from portions of the Sacramento valley.

Grapes have not been injured by the drying winds, so far as reported, and the outlook is good for an excellent crop in all sections. Cherries and other small fruits were damaged by high winds during the week. Deciduous fruits of nearly all varieties will not yield the large crops expected earlier in the season but they are said to be of superior quality. Apricots, cherries and berries of all kinds are in market and shipments are being made to the east. Citrus fruits are in good condition and making satisfactory progress.

NEW METHODS OF KILLING WEEDS.

The old-time method of fighting weeds with a hoe is all right as long as the amount of ground under cultivation covered only a small plot, but with the increased area this was too slow, and so the inventor introducted the cultivator as an improvement. But now even this is to be displaced by still another invention. This apparatus consists of a light single-wheeled vehicle, carry a reservoir for the storage of oil, together with a burner by which the oil is burned close to the ground. The idea is to burn the weeds up, instead of uprooting them. This is a patented concern and we imagine will never be used by the up-to-date farmer. The object of cultivating is not only to kill weeds, but to stir and aerate soil and promote fertility. The lazy man who lets weeds grow may enjoy burning them after they have gone to seed but he will never be a successful producer.

DECEPTIVE PACKING OF CALIFORNIA PRUNES FOR EXPORT.

Consul-General Mason, of Berlin, recently called the attention of the Secretary of Apriculture, through the Secretary of State, to the fact that complaints have reached him that certain shipments of prunes received in that market under the brands of two prominent California packers, were found dishonestly packed. The fruit in the interior of the packages was found to run as small as 70-80 or even 90-100 to the pound, although the packages were branded and sold as of 20-30 size, and the face layers were fully up to that grade. The Consul-General has forwarded samples of two lots out of different shipments that were recently purchased by the leading Berlin dealer in American fruits, and himself an American, that fully sustain the charge. In view of the danger that the reputation of American fruits in those markets will be brought into disrepute by a continuance of this reprehensible practice, Mr. Mason's report is certainly worthy of the closest attention of California prune packers.

SOME APPLE HISTORY.

The first apple trees planted in America were imported by the Dutch settlement at New York in 1614. Apple trees were also known to have been growing at Jamestown, Va., as early as 1622. Until within the last half century apples were grown almost solely for cider making, as is the case today in France. As hard cider will produce drunkenness and a horrible katzenjammer, William Penn advised his colonists in Pennsylvania to cultivate indigenous fruits alone, as apples were then used almost exclusively for making cider or apple jack.

Many of the orchards of the pioneers of the Middle West were grown from seeds obtained in a peculiar way. Some man whose full name has been forgotten, and who is remembered only by the appellation of "Apple-Seed Johnny," traveled through the west and scattered among the settlers untold quantities of apple seeds. He gave them away free of charge and he was given a hearty welcome at every cabin door.

The last decade or two has shown wonderful development of the large commercial apple orchards in the west, and the industry has now assumed vast proportions. Apples, for instance, are exported to England and many foreign countries. Apple cores from the big drying establishments are purchased by eastern buyers and shipped to France to be used in the adulteration of wines and champagne.—Baltimore Sun.

Young sorghum will certainly kill calves if grazed upon while very young. Even small amounts are dangerous to young calves. Older cattle may be grazed upon it with little fear of loss if they are gradually accustomed to it. If unaccustomed to sorghum, they will gorge themselves upon it and in a few minutes will die of bloat, hoven or wind colic. Horses and hogs graze it with no danger to themselves. Puncture the paunch of large cattle with coarse awl to permit gas to escape. The angle between last rib, hip, and backbone is the place to puncture.

Wet alfalfa is dangerous to cows, though it will not hurt horses or hogs if these animals are accustomed to feed upon it. It is never safe to graze cows upon alfalfa because sooner or later they will eat alfalfa wet from showers or from dew.

Three vital points in testing milk: A true sample of the cream; an exact quantity of the sample in the test bottle; reading the test accurately.—Farm and Ranch.

Los Angeles Markets.

Los Angeles, June 9, 1904.

Notwithstanding the dull season is approaching, trade still continues fair, with but few changes in quotations.

Butter.

Butter remains at same price, though an early advance is anticipated.

B. of T. Cream, 2-lb roll		45
Valley creamery, fancy..	45	
Coast Creamery		40
Cooking, per lb.		20

Cheese.

There is no change in the quotations of cheese. Best grades hold firm under a fair demand.

Cal. and 3 lb. hand	14	
Cal. Downey and Anchor	12	
Northern	11	12
Swiss	21	
Imported do	26½	

Eggs.

Eggs have stiffened materially in the past week. The supply has been greatly reduced and demand is brisk.

Store, case count	18	19
Fresh ranch	22	
Eastern	21	

Poultry.

Poultry is also higher in price and keen in demand.

Broilers, up to 1½ lbs...		15
Broilers, 1½ to 2 lbs.....		17
Fryers, 2 to 2½ lbs.....		20
Young Roosters, 2½ up..		22
Hens, No. 1, per lb.	14	15
Ducks, per lb.	18	20
Turkeys, per lb	16	20
Turkeys, dressed	30	

Live Stock.

Hogs, per cwt 5 50		5 62½
Prime steers, cwt 3 75		4 25
Cows, cwt 3 00		3 50
Calves, cwt 4 00		5 00
Sheep, ewes, per head..3 00		4 00
Lambs, do 3 00		3 50
Wethers, do 4 25		4 50

Potatoes.

The report on the potato situation is one favorable to the new crop. As yet they have found their way to market in small lots, but soon are expected to arrive in carload lots. The crop is abundant and from many sections reports show a larger yield than in former years.

Highland Burbank.... ..1 50		1 75
River, per cwt 1 50		1 75
Early Rose		1 50
Nevada Pearls, do 1 50		1 75
Oregon, do		1 60
Early Rose, new		1 00
Nevada Pearls, do		1 50

Vegetables; Mixed.

Onions, Silver Skin	75	1 00
Onion, Red 1 00		1 40
Beets, per 100 lbs	90	1 00
Cabbage, per ton 6 00		7 00
Green Peas	02	03
Lettuce, per sack		40
Tomatoes, 25 lb. crate .. .		1 00
Carrots, per sack	60	70
String Beans		03
Wax Beans		04
Chiles, green, per lb.	08	10
Rhubarb		50
Asparagus		06

CITRUS FRUITS; FRESH

Fancy oranges, 126s, bx		2 25
Do, 150s 1 50		
Do, 176s, ...1 25		
Do, 200s, ...1 00		
Standards	50	
Lemons, fancy, per box	1 00	
Standard, do	75	
Grape Fruit		1 25
Limes, per 100	90	1 25

DECIDUOUS FRUITS FRESH

Grapes per box	65	1 35
Plums	40	1 00
Apricots lb		05
Strawberries	06	07
Loquats		06
Cherries, 10 lb. box.....	50	1 00
Bulk cherries	06	07
Gooseberries, 20 lb. box .		80
Loganberries		10
Watermelons, per doz ...		6 00
Blackberries		08
Cantaloupes, per crate...5 00		6 00

Fruits; Dried.

Apples, evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink 3 75		4 00
Lady Washington, ...3 25		3 40
Limas 4 00		4 15
Small White 3 60		3 65
Garvanza 4 50		4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	07½..	08
Peanuts, California	07½	08

HONEY.

White, strain, per lb		06
Light amber, do	05	06
Comb, water white		15
Do, light amber		13

HAY.

Alfalfa 10 00		12 00
Tame Oat		12 00
Barley hay 12 00		13 00
Wheat hay ... .10 00		12 00

GRAIN.

Oats 1 25		1 40
Wheat 1 65		
Barley 1 20		1 35
Corn 1 35		1 50

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley 1 25		
Bran.... ... ...1 30		
Feed Corn Meal		1 60
Middlings		1 45
Cracked Corn		1 55
Oil Cake Meal		1 85
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, June 9.

Dairy.

There has been a slight advance in fancy creamery, commanding one cent higher than last week, other grades remaining the same as last week.

BUTTER—Per lb:

Creamery, extras	.20
Creamery, good to fancy	.18 @19
Dairy, extra	.17 @18
Dairy, choice	.15 @16
Store	.14

CHEESE—Per lb:

Cal. Creamery, mild, new extra	.10 @10½
Cal. Creamery, mild new, choice	.8 @ 9
Young America	.10 @11½

Eggs and Poultry.

Eggs show decided advance with selected ranch quickly taken at full rates. There is some low grade stock which still goes below the lower quotations:

EGGS—Per doz:

Ranch, selected large	.23
Ranch, good to fancy	.20 @22
Store	.17 19

Three to five cars of poultry are received from the Middle West each week. Young, local stock is readily picked up at top quotations. Some fancy young roosters bring in advance of market. Quotations remain same as last week.

POULTRY—Old Roosters, per doz., $4.50@5; young Roosters, $7.50@8.50; Fryers, $5.50@6.50; Broilers, large, $3@4; small, $2@3; Hens, small, $5@5.50; large, $6@7; Ducks, per doz., old, $4.50@5; young, $5@6; Live Turkeys, per lb., 14@15c; Geese, per pair, $1.25@1.75; Goslings, $1.50@2; Pigeons, per doz., old, $1.25@$1.50; young Pigeons, $1.50@1.75; Squabs, $2.50@$3.

Fruits and Vegetables.

Cherries show a decided falling off in quantity, with prices remaining much the same. Canners are taking up the surplus. Apricots are gradually getting down to normal price. Los Angeles stock is commanding $1 per box. Cantaloupes from Coachella are being received more freely. Some seedless grapes are readily commanding $4 per crate; all come from the Yuma and Coachella section. Raspberries readily command top quotations and are in demand. Advanced prices checked sales of oranges.

DECIDUOUS FRUITS—Apples, per box, $1@$2.50; Green Apples, box or basket, 25c.

Cherries—Per box: Black and Red, 40@65c; Royal Annes, 50@65c; White, 25@40c; bulk, per lb., Black and Red, 3@5c; Royal Annes, 4@6c; White, 3@3½c.

Apricots—Per box or crate, 50c@$1.

Cantaloupes—Crates, $1@5.

BERRIES—Per chest: Strawberries, Longworths, $8@12; large varities, $2.50@5; Raspberries, $15@20; crate, $1@2; Blackberries, $4@7; Loganberries, $3@5; Gooseberries, per lb., common, 1@3c; do, English, 7c; Currants, $2.50@4.

CITRUS FRUITS—Per box: Oranges, Navels fancy, $2.50@3.50; choice, $2@3; standard, $1.25@1.75, according to size; Seedlings, $1.10@1.25; late Valencias, $2@3; Mediterranean Sweets, $1.25@1.75; Lemons, $1.25@2.75; Grape Fruit, $1@2.50; Tangerines, $1.40@1.65; Limes, 75@6; fancy, $2.25@3; choice, $1.50@2.50; standard, $1@1.75, according to size.

VEGETABLES—Asparagus, per lb., 4@7c; Tomatoes, per box or crate, southern, $1.50@$1.75; do, Mexican, $1.50@2; Rhubarb, per box 50@75c; Green Peppers, per lb., 8@12½c; Dried Peppers, Stockton, 7@8c; southern, 8@12c; String Beans, per lb., 5@8c; Wax Beans, 6@8c; Green Peas, per sk, $1.50@2; Garden Peas, per lb., 3@3½c; Egg Plant, per lb., 10@12½c; Summer Squash, per box, 50c@$1; Cucumbers, hot house, per doz., 50@60c; do, Marysville, per box, $1.50@1.75; Garlic, per lb., new, 4@6c; Dried Okra, per lb., 12½c; Marrowfat Squash, lobbing at 1@2c per lb; Green Corn, per doz., 20@30c.

POTATOES—Per ctl: River Burbanks, 75c@$1.05; River Reds, $1@1.10; Oregon Burbanks, $1@1.40; New Potatoes, Whites, $1.40@$1.90; Early Rose, $1.25@1.40.

ONIONS—Per ctl: New Red, 75@90c; Australian, $1.50@5.

Dried Fruits, Nuts, Etc.

Dried Fruit remains much the same as to hold-over stock and with no quotations as yet on the coming crop. Growers are intimating a desire for as high as 8c for the coming crop of 'oots.

DRIED FRUITS—Prices for carload lots, f. o. b., at California common shipping points, in bags, for 1903 crop, are per lb, as follows:

Apples—Evaporated, 4½@6c; Sun dried 3@4½c.

Apricots—Royal, fancy, 10@10½c; choice 8½@9c; Moorpark, 10@12c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2@2½c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 7c; fancy, 8@8½c; peeled, in boxes, nominal.

Pears—Bartlett, fancy, 15c; choice, 12½c@15c.

Figs—White, 3@4c; Black, 4@4½c.

HONEY.

HONEY—Comb, per lb., nominal; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 28@29c.

Hops.

The price of new crop is 27½@30c per lb, according to quality.

Beans.

The outlook for beans is the best. The stocks of beans in the state on June 1st were estimated as 326,313 bags, and with four months to sell them before the arrival of the new crop operators have marked confidence in the market.

BEANS—Prices per ctl: Large White, $2.25@$2.60; small do, $2.50@2.75; Pea, $2.50@2.75; Lima, $2.30@2.35; Red, $4.25@4.50; Pink, $3.40@3.60; Bayo, $2.25@2.35; Blackeyes, $2.05@$2.25; Kidneys, $1.75@4.

DRIED PEAS—Prices per ctl: Niles, $3.25; Green $3@3.25.

Live Stock.

CATTLE—No. 1 Hay-fed Native Steers, 7½c@8c; second quality, 7@7½c; thin steers, 6c@6½c; No. 1 Grass-fed Steers, 7¾@8¼c; No. 1 Cows and Heifers, 6@6½c; second quality, 5½@6c; third quality, 5@5½c; thin Cows and Heifers, 4½@5½c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

SHEEP—Per lb: Unshorn Wethers, No. 1, 4c, gross weight; Shorn, 3@3½c; Ewes, No. 1, unshorn, 3½@3¾c, gross weight; shorn, 3@3½c.

CALVES—Light, per lb., 4@4½c, gross weight; heavy, 3¾@4¼c, gross weight.

LAMBS—Suckling, per head, $2@2.25 or 4½c@5c per lb., live weight.

HOGS—Per lb., Hard grain-fed, weighing alive 80 to 200 lbs., 4¾@5c; weighing 200 to 300 lbs., 4½c; rough heavy, 3¼@4c.

WOOL.

There is a continued and increasing demand for all choice free grades of California Spring Wool at full quotations. There has been a close clean up of all desirable stock throughout the country districts of California and the local market is closely sold out, so that soon there will be only a very light stock to draw from.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $10@15; Wheat and Oat, $10.50@13.50; Oat, $7.50@12.50; Barley, $8@11; Clover, nominal; Alfalfa, $8@10.50; Stock, nominal.

STRAW—Good to choice, per bale, 60@75c.

FEED CORN MEAL—Choice grades, per ton, $32.50@33.

GROUND BARLEY—Per ton, $23@24.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.50@4.30.

WHEAT—No. 1 shipping, per ctl., $1.28¾; Choice, $1.31¼; White Milling, good to choice $1.35¾@1.46¼.

BARLEY—Choice No. 1 Feed, $1.02½@1.05; off grades, $1@1.04¼; Brewing, No. 1, $1.06¼@1.13¾; Chevalier, nominal.

OATS—Good to choice, White, $1.40@1.45; Red, $1.27½@1.35; Black, nominal at $1.22½@$1.27½.

CORN—Good to choice, per ctl: California, new, large yellow, $1.45@1.57½; small do, $1.60@1.65; White, $1.45@1.57½; Eastern, $1.42½@$1.52½.

CRACKED CORN—Choice quality, per ton, $33@33.50.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

CHICAGO, June 8.—Under a turn of weather conditions and indifferent cables, the wheat market opened weak. Sentiment was quite bearish, in spite of a considerable decrease of receipts in the Northwest. Private cablegrams from India confirm previous announcements of a record-breaking crop. News from the Northwest regarding spring wheat showed that the crop was in excellent condition. A report of a local statistician claimed that, within the past month, the condition of wheat had improved about 2 per cent.

Cash quotations were as follows: Flour was steady; No. 2 spring wheat, 95@98; No. 3, 85@96; No. 2 red, 1.05@1.06; No. 2 corn, 48¾; No. 2 yellow, 50@50½; No. 2 oats, 41¾@42; No. 3 white, 41@43; good feeding barley, 40@43; fair to choice malting, 45@56.

On the Produce Exchange today the butter market was steady; creamery, 13½@15½; dairy, 11¾@16; eggs, easy at mark, cases included, 14½@15¼; cheese, easy, 7¾@8¾.

Live Stock.

CHICAGO, June 8.—Cattle—Receipts 32,000; steady to easier; best cattle strong; others weak to 10c lower; good to prime steers 5.50@6.40; poor to medium, 4.75@5.50; stockers and feeders, 3.25@4.00; cows, 1.75@4.75; heifers, 2.50@5.00; canners, 1.75@2.75; bulls, 2.50@4.30; calves, 2.50@5.50.

Hogs—Receipts to day 28,000; tomorrow 30,000; 5c higher; mixed and butchers, 4.75@4.95; good to choice heavy, 4.95@5.00; rough heavy, 4.70@4.85; light, 4.65@4.85; bulk of sales, 4.75@4.90.

Sheep—Receipts 18,000; sheep and lambs steady to strong; good to choice wethers 5.25@5.50; fair to choice mixed, 3.75@5.25; western sheep 4.50@5.50; native lambs 4.50@6.55; western lambs 5.50@6.85; spring lambs 5.50@7.75.

Dried Fruits, Nuts, Etc.

NEW YORK, June 8.—The market for evaporated apples continues quiet and the tone is in favor of buyers. Common at 4½@5; prime 5¼@5 3-5; choice 6@6½; fancy, 7. Prunes show no change, either in price or general condition. Quotations range from 2¾@5¾. Apricots are in light supply, so far as old crop fruit is concerned, and rule firm. Choice are quoted at 9½@10; extra choice 10¼@10½; fancy, 11@13. Peaches are reported to be in good demand on the Coast, but locally sales are small and prices are good; choice are quoted at 7@7¼; extra choice, 7@8; fancy 9¼@10.

CITRUS MARKETS

Lemons are looking up and the lemon grower is hopeful of better prices for the next few weeks. The advance in New York yesterday was about 15 per cent on all sizes. 300's are now commanding $3.00 and up in New York.

The orange market is much weaker. Hot weather is melting them down rapidly.

AUCTIONS.

BOSTON, Mass., June 3rd, 1904.

NAVELS.—Selects, S. A. Ex., San Dimas, $2.60.
La Mesa, Riv., Riverside, $2.65.
Foothill, S. A. Ex., No. Pomona, $2.70.
Navajo, A. H. Ex., C. B. Sta., $2.25.
Quail, O. K., W. Cucamonga, $2.45; Catalina, $2.95; Riley, $2.30; Florencia, $2.20.

NEW YORK CITY, June 3rd, 1904.

Red Globe, Riv., Riverside, $2.80.
Gondolier, C. C. U., Rialto, $2.40.
Blue Globe, Riv., Riverside, $3.15, $3.05.
Arbutus, C. C. U., E. Alhambra, $2.20.
Golden Rule, Riv., Riverside, $2.50, $2.40.
Stag, T. I., A. C. G. Ex., Azusa, $2.50, $2.40.
La Mesa, Riv., Riverside, $2.85, $3.00.
Pointer, T. I., A. C. G. Ex., Azusa, $1.85.
Squirrel, A. H. Ex., Arlington, $2.45.
Indian Hill, S. A. Ex., No. Pomona, $3.40.
Lincoln, A. H. Ex., C. B. Sta., $2.45.
Foothill, S. A. Ex., No. Pomona, $2.75.
Navajo, A. H. Ex., C. B. Sta., $1.90.
Owl, O. K. Ex., Ontario, $2.45.
Select, S. A. Ex., San Dimas, $2.30.
Violet, D. M. Ex., Duarte, $2.60; Violet, T. I., $2.60.
SWEETS.—Rialto, C. C. U., Rialto, $2.65.
Extra Choice, S. T. Ex., Lamanda, $2.55.
Lighthouse, C. C. U., Pomona, $2.25.
Butterfly, Cov. Ex., Covina, $2.50; Holly, $2.25.
S. S., S. S. Ex., Orange, $2.10.
Whittier, W. F. Whittier, $1.45.
Orange Prince, Collins Ft. Co., $2.55.
Whittier, W. F. Whittier, $1.30.
Orchard Queen, Collins Ft. Co., $2.35.
GRAPE FRUIT.—Orange Prince, Collins Ft. Co., .65.
Whittier, W. F. Whittier, $1.50.
Highland, Highland F. G. Ass'n, $1.55.

NEW YORK CITY, June 6th, 1904.

Pepper, Riv., Riverside, $1.70.
Fox, C. C. U., W. Duarte, $2.20; Red Globe, $3.20, $2.70, $2.65, $2.30.
Sunshine, C. C. U., Fullerton, $2.50; La Mesa, $3.20, $2.70, $2.65.
Seal, C. C. U., Ontario, $2.45; Golden Rule, $3.20, $2.70, $2.20, $2.25.
Lighthouse, C. C. U., Ontario, $2.15.
Uncle Sam, Riv., Pachappa, $2.50
Coyote, O. K. Ex., Ontario, $2.10.
Fiesta, Riv., Pachappa, $2.10; Orchard Run, $2.40.
Owl, O. K. Ex., Ontario, $2.00, $2.10.
Squirrel, A. H. Ex., Prenda, $2.85; Quail, $2.25.
Jewel, S. A. Ex., Pomona, $2.45.
Select, S. A. Ex., San Dimas, $1.75.
Old Mission, Chapmans, $2.55.
Tropical Queen, C. C. U., $2.25.
Golden Eagle, Chapmans, $2.25.
Three Fates, A. L. King, $2.40.
SWEETS.—Whittier, W. F. Whittier, $2.80.
Ocean, Moffatt Ft. Co., $2.65.
Three Fates, A. L. King, $2.50.
Fountain, Moffatt Ft. Co., $2.80.
Isis, F. H. Spiech, $2.05.
Santa Fe, Moffatt Ft. Co., $2.25.
Success, F. H. Spiech, $2.30.
Old Mission, Chapmans', $2.70.
Lion Head, C. C. U., Redlands, $2.90.
Squirrel, A. H. Ex., Prenda, $2.35.
Tiger Head, C. C. U., Redlands, $2.45.
Golden Orange, A. H. Ex., Prenda, $2.85.
Beaver (Med.), C. C. U., National C., $2.30; Dragon (Med.), $1.95.
BLOODS.—Squirrel, A. H. Ex., Prenda, $2.70.
Three Fates, A. L. King, $2.20.
Uncle Sam (Ruby), Riv., Pachappa, $2.25.
Red Globe (Malta), Riv., Riverside, $2.15.
Fiesta (Ruby), Riv., Pachappa, $2.05.
BUDDED.—Mission Bells, C. C. U., Chapman, $2.10.
Fox, C. C. U., W. Duarte, $1.95; Bunker Hill, $1.80.
Trumpter, C. C. U., San Marino, $2.05.
Arbutus, C. C. U., E. Alhambra, $1.45.
Carnation, C. C. U., Riverside, $1.95.
La France, J. S. Kuns, $2.60.
SEEDLINGS.—Beaver, C. C. U., National C., $2.00.
Violet, D. M. Ex., Duarte, $2.05.
Parrott, S. A. Ex., Pomona, $2.00.
Havana Seed, Santa Paula, $2.15; Selected, $2.05.
ST. MICHAELS.—Lion Head, C. C. U., Redlands, $2.75; Tiger Head, $2.55.
Old Mission, Chapmans', $2.85; Golden Eagle, $2.50.
Whittier, W. F. Whittier, $2.60.

PHILADELPHIA, Pa., June 6th, 1904.

Stag, A. C. G. Ex., Glendora, $3.00.
Quail, O. K. Ex., Upland, $2.50.
Pointer, A. C. G. Ex., Glendora, $1.80.
Coyote, O. K. Ex., Upland, $2.50.
Hunter, A. C. G. Ex., Glendora, $1.65.
Iris, D. M. Ex., Duarte, $2.30.
Pointer, T. I., A. C. G. Ex., Azusa, $1.80.
Violet, D. M. Ex., Duarte, $2.00; Jewel, $2.45, $2.20.
SWEETS.—Coyote, O. K. Ex., Upland, $2.40.
Lion Head, C. C. U., Redlands, $3.00; Tiger Head, $2.45.
Carmencita, S. T. Ex., Fullerton, $2.55; Orange Bowl, $2.10.
Orchard Run, Riv., Riverside, $2.35.
Perfection, C. C. U., Alesandro, $2.60.
LEMONS.—La France, J. S. Kuns, $2.65.
Golden Rod (Sweets), C. C. U., $2.05.

BOSTON, Mass., June 6th, 1904.

Lincoln, A. H., C. B. Sta., $2.45; Navajo, $2.00.
Angel, C. C. U., Colton, $2.60; Marguerita, $2.35; La Belle, $2.45.
Owl, O. K. Ex., W. Cuca., $2.40.
Select, S. A. Ex., Pomona, $2.35.
Blue Globe, Riv., Riverside, $2.20.
LEMONS.—Coyote, O. K. Ex., Upland, $2.65; Bear, $3.25.
Palm Tree, A. H. Ex., Arlington, $2.15.
Fancy, Riv., C. B. Sta., $2.35.
Royal, Q. C. Ex., Corona, $1.85.
Golden Rule, Riv., Riverside, $2.45.
Foothills, S. A. Ex., No. Pomona, $2.75.
Extra Choicest, Ex., Orange, $2.80.

BOSTON, Mass., June 7th, 1904.

NAVELS.—Golden Rule, Riv., Riverside, $2.20.
Palm Tree, A. H. Ex., Arlington, $2.00.
Foothill, S. A. Ex., No. Pomona, $2.70.
Jewel, S. A. Ex., Pomona, $2.40.
Squirrel, A. H. Ex., Arlington, $2.30, $2.30.
Pointer, A. C. G. Ex., Azusa, $1.45. $1.50.
ST. MICHAELS.—Mocker, Spence Ft. Co., $2.90.
Old O, Bucket, Houser Bros., $2.60.
Ruth Fancy, Rubidoux Ft. Co., $2.60.
Malta Bucket, Houser Bros., $1.90.
Carmencita, S. T. Ex., Fullerton, $2.30.
LEMONS—Queen Bee, Q. C. Ex., Covina, $2.65; Royal, $2.20; Choice, $1.20.

NEW YORK CITY, June 7th, 1904.

NAVELS.—Blue Globe, Riv., Riverside, $2.85.
Gondolier, C. C. U., Rialto, $2.10.
Red Globe, Riv., Riverside, $2.25, $2.05.
Sunshine, C. C. U., Fullerton, $1.50.
La Mesa, Riv., Riverside, $2.50.
Pointer, A. C. G. Ex., Azusa, $1.40.
Golden Rule, Riv., Riverside, $2.35.
Hunter, A. C. G. Ex., Azusa, $1.20.
Pepper, Riv., Riverside, $1.70.
Arroyo, S. T. Ex., Pasadena, $2.00.
Quail, O. K. Ex., Upland, $1.80.
Squirrel, A. H. Ex., Arlington, $2.20.
Violet, D. M. Ex., Duarte, $2.00.
Old Mission, Chapmans', $2.45.
Elite, Anaheim Ft. Ass'n, $1.70.
Cupid, Fillmore C. F. A., $2.50.
Clover Leaf, Westfall, $2.55.
SWEETS.—Golden Eagle, Chapmans, $2.30.
Gondolier, C. C. U., Rialto, $2.40.
Topaz, C. C. U., Covina, $2.25.
Victory (Med.), C. C. U., Fullerton, $2.00.
Amethyst, C. C. U., Covina, $2.25.
SEEDLINGS.—Echo, S. T. Ex., Pasadena, $1.90.
Gondolier, C. C. U., Rialto, $1.75.
Arroyo, S. T. Ex., Pasadena, $1.75.
Sapphire, C. C. U., Covina, $2.05; Amethyst, $1.75.
BUDDED.—Blue Globe, Riv., Riverside, $2.35.
Fox, C. C. U., Duarte, $1.60.
Arbutus, C. C. U., E. Alhambra, $1.25.
Bunker Hill, C. C. U., W. Duarte, $1.25.
Arbutus, C. C. U., E. Alhambra, $1.00.
Mission Bells, C. C. U., Chapman, $1.65.

CITRUS FRUIT SHIPMENTS.

	Oranges.	Lemons.
Friday, June 3	101	18
Saturday, June 4	99	26
Sunday and Monday, June 5-6	83	12

Total to date this season, 23,645 cars, of which 1702 cars are lemons.

Total to same date last season, 18,147 cars, of which 1772 were lemons.

THE CHERRY CROP.

Twelve carloads of cherries cleared Sacramento Monday for the East, being the record day's shipment for the season. On the same date last year fourteen cars were shipped.

For this season 90 carloads have gone East up to Tuesday. On the same date last year 112 carloads had been shipped. It was thought for a time this year that this season's total shipments would fall below those of 1903, but it now begins to look, according to the shippers, that the total for this year will come up to the total of last. There is a keen demand in the East, prices are good and growers and shippers are exerting themselves to get all the good cherries possible for the Eastern market. This is now causing the shippers to think that the total will not fall behind that of last year, when 216 carloads were shipped out of the State.

Six carloads were sold Monday. A car from Newcastle, moved on the 28th, was sold in Pittsburg for a gross of $2545. The average for the fruit was $1.20 a box.

A car from Vacaville, on May 24th, was sold in New York. The contents were in fair condition, weather hot. The gross for the car was $2942.

A car from Newcastle on the 23d was sold in Boston. The fruit was in poor condition. The gross for the car was $2683.

Another car, from Suisun, on the 24th, was sold in Boston. Condition of fruit not good. The gross for the car was $2320.

Two carloads were sold in Chicago Monday. One car was from San Jose on May 27th. Condition of fruit good. The gross for the car was $2639.

The other car sold in Chicago was from Newcastle on May 27th, with fruit in good condition. The gross receipts for the car were $2512—Sacramento Union.

Exposition Excursions

Santa Fe

ST. LOUIS $67.50
CHICAGO $72.50

May 11, 12, 13
June 1, 2, 7, 8, 13, 14, and every month until October inclusive.

Above rates from most California points

Good 3 Months

Ask Santa Fe Agents or General Passenger Agent, Los Angeles, for full particulars.

MALTHOID ROOFING

Put up in rolls 36 inches wide, with fixtures

Acid, Alkali and Water Proof; all ready to lay. Will not deteriorate with age

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Write for samples, prices and booklet

NATIONAL WOOD PIPE CO.

(Incorporated)

Manufacturers of

REDWOOD WATER PIPE

From 3-inch to 10-feet in diameter

For.....

WATER WORKS,
MINING AND
IRRIGATION PLANTS

CHEAPER, STRONGER AND MORE DURABLE

than riveted iron or steel pipe. Requires no expert to lay and can easily be taken up and relaid, as it is absolutely indestructible. ALL PIPE SOLD UNDER AN ABSOLUTE GUARANTEE We contract for complete irrigation systems. Illustrated catalogue sent on application.

Address NATIONAL WOOD PIPE CO.,

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OF LOS ANGELES, CALIFORNIA

DESIGNATED DEPOSITORY OF THE UNITED STATES

Capital $500,000. Surplus and Undivided Profits, $275,000

DIRECTORS

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Home Savings Bank of Los Angeles

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Subscribed Capital, $200,000.00; Paid Up, $100,000.00. Accounts may be opened and deposits and withdrawals made by mail. Loans made on approved security. Interest paid on deposits.

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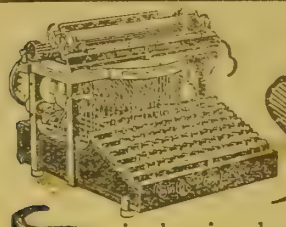

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is the simplest and strongest of all writing machines. It does better work, does it quicker, lasts longer, and costs less in the long run than any other typewriting machine. It is

The World's Best Typewriter

Let us send you our little book telling all about it.
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World's Fair

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Excursion Rates

ST. LOUIS and return $67.50

CHICAGO and return $72.50
One Way Through St. Louis

NEW YORK CITY and return $108.50

Good going—June 1, 2, 15, 16, 22, 23.
July 1, 2, 7, 8, 13, 14.
August 8, 9, 10, 18, 19.
September 5, 6, 7, 8.
October 3, 4, 5, 6.

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Choice of Routes

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In a modest way we tell you of our ability to give you the best for the least money in **FRUIT GROWERS' AND PACKERS' SUPPLIES.** Complete outfits for the smallest fruit grower to the largest packing house equipments. Write us of what you need and receive the same attention that you would by appointment.

THE SMITH MFG. CO.

327-347 WEST SANTA CLARA ST., SAN JOSE, CAL.

Make Your Own Fence...

We will furnish the wire at 2c per pound, No. 14 guage. Weighs about 1¼ pounds single strand per 100 feet. Figure it yourself and get a good fence cheap. You make mesh or openings to suit requirements. This is galvanized wire that has been used for other purposes, or it would be worth two or three times our price. Remit for amount required and get quick shipments. No quantity under 100 pounds supplied.

Lee Chamberlain & Co. Station C 105 North Main St. Los Angeles, Cal.

POWER SPRAY OUTFITS

Using Lambert Distillate and Crude Oil Engine for power—double-actin outside-packed piston pump, especially designed for Power Spray Rig. Tank are fitted with power agitator, which insures a perfect mixture. Built an for sale by

S. J. Smith Machinery Co., InC., 129 N. Los Angeles St., Los Angeles

Wholesale and retail dealer in Lambert Engines, Aermoter Windmills, Tanks, Pumps and Pipes. Complete Irrigation Plants

When writing to Advertisers Please mention Cultiva

California Cultivator

LOS ANGELES SAN FRANCISCO

JUNE 17, 1904

IN THIS ISSUE:

Hop Culture.

Rusts.

Fumigation for Scale.

Favorite Peaches.

Fattening Heifer Calves.

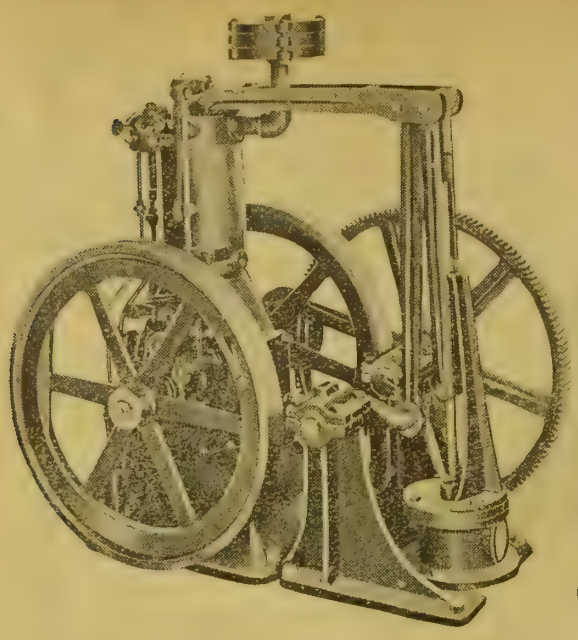
Crowless Roosters.

The Tall Pole Method.

The Short Pole Method.

DIVERSE METHODS OF HOP TRAINING. (See Page 579.)

CIRCULATION EXCEEDING 10,400



This is the

Little Wonder

It's a little wonder because everybody wonders when they learn its price and see how cheaply it may be operated.

It will pump water, grind feed, shell corn, churn butter, spank the baby, and fill many other requirements. It has a friction clutch so that engine may be disconnected from pump and used for other purposes.

Don't you want to know about it? Write

Wm. Gregory

602 NO. MAIN ST. LOS ANGELES

White and Brown Leghorns

Have won more prizes at the leading shows than all competitors combined. At the State Fair, San Francisco, and Seattle shows, the past season, they have demonstrated their superiority by winning the lion's share of the First Prizes. Not only this, but at the great Chicago Show in January we won five out of a possible six prizes, creating a sensation among Eastern breeders. For the finest stock on the Pacific Coast, write us. Eggs, either variety, $2.00 per 15; $5.00 per 45; shipped safely to go any distance. Incubator lots at reduced rates. SEND FOR CIRCULAR.

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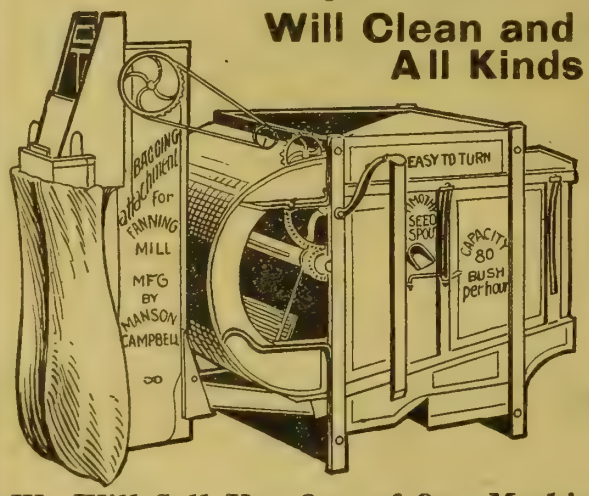
FOR SEED

The Chatham Fanning Mill

with Sacker Attachment, made by the M. Campbell Fanning Mill Co., Limited.



Will Clean and Grade All Kinds of Grain

taking out the foul seeds, separating oats from wheat, separating barley from wheat. We have special screens and riddles adapted for

Cleaning All Sizes of Beans

also screens for cleaning

Alfalfa Seed.

We Will Sell You One of Our Machines On Time

and to convince you that this Fanning Mill is the best machine for general farm use, will ship you one on trial and pay the freight. A good Fanning Mill will make you more money than any other machine you have. If you sow good clean seed you can not help but get a good crop, and your grain will all ripen even. Write today for one of our catalogs and liberal terms. A postal will do.

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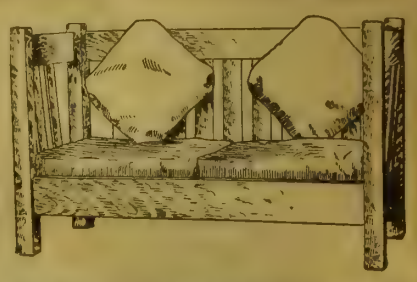

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This excellent style, fashioned after the furniture of our forefathers, and so artistic in its mere simplicity, becomes more popular daily. Its bold, simple lines, sound construction, and superior finish make it most desirable.

We show the finest assortment in the Southwest. Complete dining sets and hall, library and den pieces of every description.

We are sole agents here for the famous Gustav Stickley furniture and show a very extensive line.

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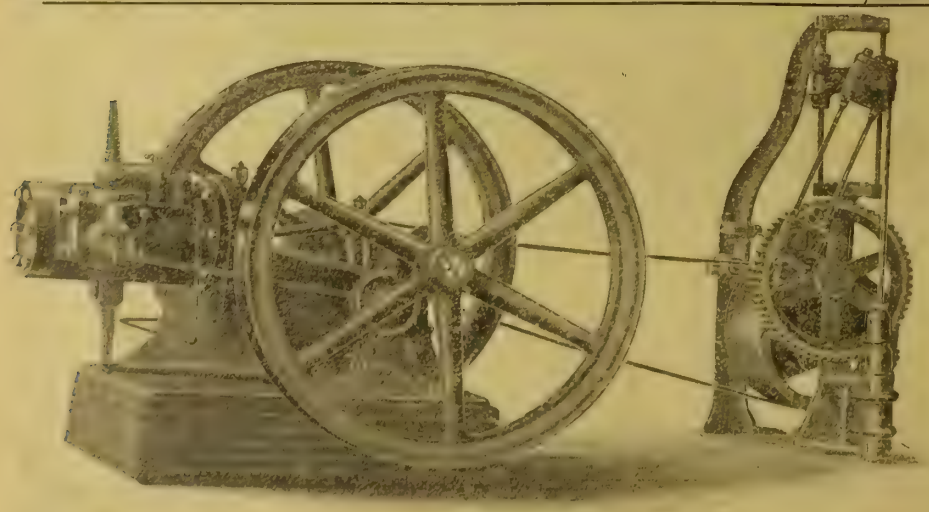
agent, that he may secure full information about this route, and get a copy of pamphlet giving in detail the pleasures of traveling

In a Tourist Sleeper



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Send us your name and address tonight and we will send you free

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Combines Automatic Sickle Grinder, Tool Grinder, Saw Gummer and Polishing Machine. Both Emery and Corundum Wheels, 4,000 revolutions a minute. In fact its $50.00 of Machinery for $10.00 Use it ten days. Then either return at our expense or send us our special price $10.00 Write now. Agents Wanted.

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CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

Vol. XXII—No. 25 LOS ANGELES, CAL., FRIDAY, JUNE 17, 1904 Subscription $1 a Year

Hop Culture in California

By J. A. W. Gates.

I have been asked to write what I know about hop growing on the Pacific coast, particularly California, and, while making no claims as a literary genius, will give a few words in regard to the industry as I have seen it in both Oregon and California.

My first introduction to the hop fields was at Eugene, Oregon, and those first two days of hop grubbing will never be forgotten, as they were two of the hardest days work I have ever done, and "My back" was my cry for weeks.

Hops require a rich soil. Bottom land that overflows from winter rains, yet having perfect drainage is the best, but hill land located in sections having plenty of winter rains and a warm, moist climate will produce well. In hop growing the first and main expense is the land and poles, as the roots reproduce the vines each year and are obtained at a small first cost.

The land should be plowed deep and thoroughly before planting the roots. The ground is laid off in rows seven or eight feet apart each way, so as to allow plowing, which is done two or three times each season, and cultivating each way, and also to give the sunlight and air a chance to get to the hops after the burrs have started. If a warm, damp spell sets in after the burrs have started it has a tendency to produce "Hop mold," which destroys the virtue of hops, as well as making an ideal breeding place for hop lice, or aphis, which in turn bring on the mold. Again, the sunlight is very essential in ripening the hops.

Hop roots are set in February or March, two roots to a hill. These roots send out innumerable shoots, which in turn are cut off, leaving from three to four shoots to a hill. Immediately after planting the new roots, or grubbing the old ones, as the case may be, the poles are set, one to each hill, for the hop is a very rank grower and these shoots require training up the poles or twines very early lest they run riot on the ground and are lost.

There are three methods of poling used. One is the short pole, about eight feet long, and having twines running from the tops in each direction on which to train the laterals. Another (used in Oregon, mostly, have never seen it used in California) is using long, heavy poles, one to each hill, about eighteen feet high, upon which the entire hill is often trained. And the other method (used along the Sacramento and Russian rivers in California) is the high wire or "trolley" method. In this the poles are generally twenty feet tall, and are set six hills apart. Across the top of these wires are stretched for the support of the vines. A stake is driven at each hill and from this stake a strong cord is run up and fastened to the wires. The young shoots are then trained to run up these cords. The bulk of the hops are always at the top of cord or pole. It takes from 90 to 110 days of growing season to produce a crop of hops.

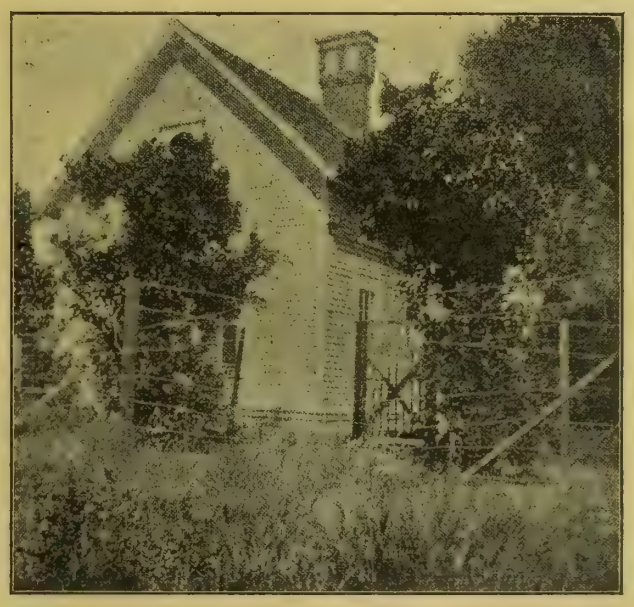
The labor problem is a very serious item and many a back will ache and many a happy hour will be spent during the hop season. As soon as the hops are ripe, then the fun commences, because the picking season is short, lasting about twenty days, and requires a small army of workers. It is estimated that one person, if a good picker, will do well to pick four bales of 200 lbs. each in a season. As soon as the picking season commences the word is passed out "Hop Pickers Wanted" and the army of laborers advance on the field and such an army as the pickers present. People of all shades, old men, young men, old ladies, young ladies and babies. They all come, bringing even the cat and canary, for the outing lasts, as I said before, about three weeks. They pitch their tents, spread wagon covers, or make "lean-tos" of boards and brush—anything to make a shelter, or home—for the time being. Every available place is used and a small city rises in the night. Along with the pickers comes the grocery man, the butcher and the baker. These open their stores or shops and the battle is on. The pickers commence work generally at daylight. The hops weigh up to better advantage when they are heavy with dew. The work continues until after sun set. Some of the workers take a few hours lay off during the heat of the day, when the household work is done.

In picking one constantly hears the cry "hop pole, hop pole," for the poles or wires must be taken down by one regularly employed for that work so as to get the vines within reach. There, by many deft movements of the hands, the beautiful clusters of hops are soon stripped from the vines and are in the sack to be weighed. From the pickers the hops are sent to the dryers, or dry kilns in sacks, on large flat bed wagons. The sacks are hoisted up to the top story and their contents spread on burlap over a grating. This is to evaporate the excess of moisture. Fires are burning in the furnaces below and the heat is driven up through the grating and hops until they begin to steam. Two hours later a fire of sulphur, for bleaching, is started in the furnace room below. The fumes of the sulphur and the heat from the furnaces is turned on full force. In about twelve hours the hops are cured and are raked from the dry lofts into cars and sent to the cooling and baling room. Great care is taken so as not to crush the burrs in the handling, as a broken hop not only spoils quicker, but its brewing qualities are lessened.

After the work of the pickers is done for the day the evenings are spent in social amusements and games, with dancing a principal feature of the program.

The largest California growers are the Clemens-Horst Company and the Pleasanton Hop Co. The former owns three tracts near Wheatland, Sacramento and Ukiah, as well as ranches in Oregon, Washington and British Columbia, and has more than 2000 acres set in vines. Over 2,300,000 lbs. were gathered in 1903 from their ranches, and $207,000 is paid out each year for labor alone. It takes an army of 6000 pickers each season to gather their crop. It is claimed that the state of California alone employs over 200,000 men, women and children each season in the hop fields and pays for the labor over $850,000 annually, while the proceeds of the crop, about 10,600,000 pounds, amounts to fully $2,700,000. Oregon had an acreage of over 18,000 acres in 1903 and gathered from the same in the neighborhood of 20,000,000 pounds.

The maximum yield is about 2000 pounds per acre, but the general average is 1200 pounds per acre. Prices on season's output run from 18 to 28 cents, according to grade, while the average last season was about 25c.



Original Navel Orange Trees at Old Tibbets Home, Riverside

Peyton System Criticized

Editor California Cultivator: I have read your article on "Pruning the Orange," in a recent number of the Cultivator with considerable interest. Living in close proximity to Mr. Valentine Peyton's orange groves, I have observed somewhat closely the novel method of pruning he has adopted, and the results thus far developed. One fact is readily apparent to the most superficial observer, that is that his style of pruning, or mutilation does not improve the bearing of the tree, but, on the other hand changes the natural globular form of the Naval tree to a squatty, semiskeleton, devoid of all harmony of proportion.

Without questioning Mr. Peyton's statement as to the quantity of fruit obtained before and after the pruning, it cannot but be admitted that to get a crop you must have bearing surface, and when half or two-thirds of the top of the tree has been cut away, the bearing surface has been correspondingly reduced—excepting, of course, water sprouts and dead wood.

By the side of, and just arcoss the street from the ten-acre grove in question, is a grove of forty acres, a year younger, which produced more than double the quantity of fruit this past season that Mr. Peyton's grove produced, acre for acre, and the fruit on the forty acre grove was superior in quality, being of more desirable sizes, smoother and less ragged. It stands to reason—borne out by experience—that

(Continued on Page 582)

BY J. W. MILLS, ONTARIO, CAL.

OUR FAVORITE PEACHES.

There are some varieties of fruit that are good one season and not worth much the next while others hold a good record through all sorts of seasons. We have found that the following varieties are of the latter class with us and do not hesitate to recommend them. The remarks, of course, apply to our particular section, the Chino valley.

Pansy Pabor, one of the Newer Favorite Peaches.

Imperial peach has taken the place of the Alexander type of early peach with us, it being a true yellow freestone of good quality. It ripens about the 4th of July.

Jessie comes in a week later and tides us over into the regular yellow freestone period, though Amsden's June, Briggs' Red May and Waterloo still have some fruit hanging on until then. These peaches are all of the same type and there is a very little choice between them. Amsden's June seems to be the most regular bearer and we prefer it to the others of that type.

Without doubt, the champion early yellow freestone is Pansy Pabor. The color is absolutely perfect, brilliant red on the side exposed to the sun and deep bright yellow all over and clear to the pit or nearly so even where it is not bright red. The flavor is excellent and cannot be surpassed in its season for table use. It is rather tender for shipment, but for the home orchard, this is a good quality. The peach is globular in shape and ripens evenly all over.

Yellow St. John comes in with it but is not so good in quality, runs to smaller sizes and does not ripen so evenly on all sides. Wiggins comes along with the above, is a white fleshed large sized peach of high quality. We do not think that we have a better peach that ripens with it, that can surpass it in flavor. It is a homely peach and would not sell on its looks.

Following these varieties, comes Large Early York and like "Honest John," its synonym, can always be relied upon for a good crop of well flavored peaches. The fruit is never large but has the true peach flavor. Grosse Mignonne and Cooledge's Favorite follow closely. The fruit is similar, white freestones of fine flavor. The fruit runs to larger sizes than Large Early York and is not quite so tart. Old Mixon Free is about the same in quality and appearance. Foster is a good standby, always bears a good crop but is not quite so highly flavored as the last white fleshed varieties mentioned.

California Horticulturally

BY JOHN ISAAC, SACRAMENTO, CAL.

A FIELD FOR EXPERIMENT.

Recent very thorough investigations in the pear orchards of the Sacramento river reveals the fact that the malignant pear blight, which the growers of that section have so long dreaded and endeavored to avoid, has gained a foothold and already a great majority of the orchards there are infested. Men are employed in all, cutting out and burning the infested portions, in the hopes that they may be able somewhat to stay its ravages, but if the experience of other sections in which this disease has appeared is repeated, even this heroic treatment is not likely to stay its spread. How much the introduction of this disease in this section means, will be understood when it is realized that here we have the principal pear section of the State, and probably more pears are produced along the Sacramento river than in all the balance of the State combined. It is the one great industry of this section and the destruction of the pear orchards here means ruin to hundreds of families. The disease is the more to be dreaded, too, from the fact that we know of no remedy for it, and have no means of checking its ravages. Pear blight was one of the mysterious diseases until 1880, when Prof. T. J. Burrill, of the University of Illinois made a special study of it and discovered that it was bacterial in its nature, and he succeeded in sequestrating and cultivating the bacillus. So much we know; we know also that it operates in the cambium layer, or sapwood and is spread by the sap. Being within the body of the tree itself, it is impossible to reach it by means of any external remedy. Sprays are worthless, and the only hope that we have is that it may yet be discovered that there is some remedy that may be taken up in the sap flow which will counteract the ill effects of the bacillus. This is surely not improbable. We know that trees are affected beneficially or injuriously by the contents of the soil. We know that by applying certain mineral fertilizers that we can improve the fruit upon our trees, or cause them to put on a heavier coat of foliage, we can improve the color of fruit or foliage at will. These minerals, these fertilizers, undergo certain chemical changes in the soil and are converted into plant foods having specific action on the trees. We have learned, in other words, to give our sick trees necessary medicines. Now, is there not something which our pear trees will absorb which will so strengthen them that they will be able to resist the work of this destructive bacillus, or even throw it entirely out of their systems. It is along some such lines that experiments must be made. This opens the field for a long and costly series of experiments, but if success is achieved the result will be worth all it costs, for it would save from destruction one of the greatest fruit industries of our State and one whose very existence is now threatened.

* * *

M. B. Knobel, Berryessa.—The parasite you require for the apricots is not the Scutellista, which is a parasite of the black scale. Your trees are evidently infested with the brown apricot scale (Lecanium armeniacum) the parasite for which is the Comys fusca. These you can secure from Mr. Alexander Craw, Ferry building, San Francisco. We have forwarded your application to that gentleman and you will soon receive a colony of the parasites.

* * *

Mrs. Frank E. Smith, Atwater.—You can sow cabbage and cauliflower seed in your section any time from the middle of August to the end of November. The plants should be ready for setting out in about six weeks from the time of sowing and they will do well during the cool weather of the later fall months. The later plants will come along in the early spring and be out of the way before the hot days of summer. For cabbage lice a strong stream of water from a hose is good. This will wash them off in great numbers. Wood ashes sifted over the plants is good, or a spray of common resin soap and water will check them. Shave up a bar of common yellow soap in five or six gallons of water, dissolve it and apply it while still warm, but not hot enough to injure the plants.

SUPPOSE.

"Pshaw!" exclaimed little Margie, after hearing the story of Adam and Eve, "that old serpent couldn't have tempted me with an apple, 'cause I don't like apples."

"But," suggested Elsie, "s'pose somebody had told you not to eat apples?" —Chicago Daily News.

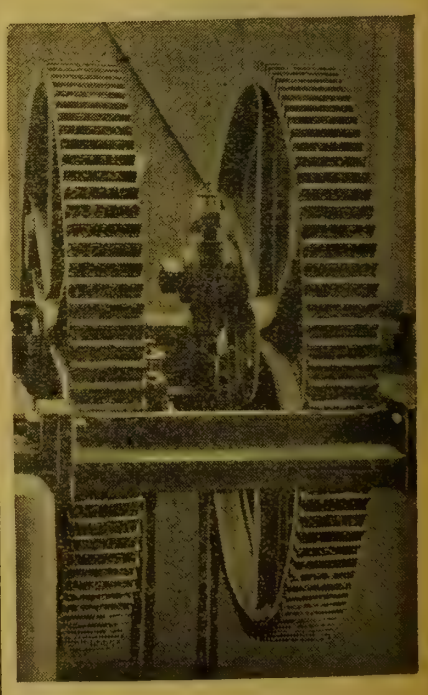
Mrs. Billups: "Jedediah, what in the world have you done to that child to make him cry so?" Mr. Billups: "Hain't done a thing to him. I fixed him up a toy locomotive, and now he's kickin' because he can't have my false teeth for a cowcatcher."

Mrs. Newlyrich—Well, of all the impudence!

Mr. Newlyrich—What is it, Hannah?

Mrs. Newlyrich—Them poor cousins of yours have gone and got themselves the same identical ancestors that you've got!

THE POMONA POWER HEADS and CYLINDERS



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POMONA MFG. CO.

Manufacturers Pomona, Cal.

BY ERNEST BRAUNTON, IONE, CAL.

OAKS FOR STREET PLANTING.

Oaks seem to be as fully favored for planting along streets in the eastern United States as they are in California.

The editor of "Floral Life," Philadelphia, a most excellent authority, answering the query. "What kind of trees will do well in cities," says: "For city sidewalks, nothing succeeds better than oak. The well-worn cry that they are slow of growth is absurd. No one will deny they are not the most rapid growing trees; but, they do make a good, moderate growth. It must be remembered, too, that trees should be chosen for their permanent value, and not for what comforting shade they will give the first three years. The hasty selection of a rapid growing tree, regardless of its lasting qualities is sure to bring regret."

* * *

BARREN CHESTNUTS.

Editor Cultivator—I noticed in an eastern floral magazine that flowers of both sexes are borne on every chestnut tree and that but one tree is necessary for the production of perfect nuts. Now, I have a large Spanish chestnut in perfect health, its foliage is simply grand, it blossoms profusely each year, sets thousands of good-sized burrs but not more than one in a thousand contains a perfect nut. I have both watered and fertilized it heavily. Can you tell me what is the trouble?—G. A. W., San Gabriel.

Your authority is right theoretically though not practically. Your tree is self-sterile, a very frequent occurance in trees of many kinds. Nature often seeks to overcome this in monoecious plants (those bearing flowers of both sexes on the same plant) by having the male blossoms throw off their pollen before the female flower is in a receptive state, thereby causing them to be fertilized with pollen from the other plants, also in other ways. Your remedy is to plant another tree near the present one.

[We would like to ask Mr. Braunton if the same result might not more quickly be secured by grafting a scion in this same top? If so, what variety?—Editor Cultivator.]

* * *

THE WILD GARDEN.

Throughout the extreme eastern part of our country we are having a revival of the wild garden fad, or garden of native plants mainly—in some cases (most proper) natives only. In many countries these gardens are permanent features in every well-ordered grounds, but particularly in England, where that invaluable book, "The Wild Garden," by Wm. Robinson, has proved an inspiraion to thousands.

Should this fad reach California even in its mildest form, do not forget that the Cultivator has for years constantly "harped" upon this subject. In less favored countries the plants freeze down each year or are buried in snow for several months, while on this coast we can keep the garden evergreen. No State in the Union contains a richer or more varied flora and here the wild or native plant garden should be the rule—we regretfully admit that at present it is the marked (and remarked) exception.

* * *

Editor Cultivator—(1). What is the cause of my poinsettias blossoming in the spring? This seems to be very general, is this regular, and should it be so?

(2). Should callas be dried off at this season of the year, or is it advisable to continue the growth and blooming throughout the entire summer?

(1). You can control the time of flowering with the water supply. After the spring's growth you may rest the plant by withholding water, start it up early (October) and get blooms for Christmas; or wait for the rains, which if late, will bring late spring flowers.

(2). In this climate no advantage seems to accrue from a period of rest, more especially if the plants are fertilized each year. Eastern growers rest or not according to the use of flowers and time needed—if they want the blossoms only at one period of the year they rest. The regular florist usually keeps them evergreen.

* * *

Editor of Cultivotor—Why do our carnations all burst before blooming?

Great difference of opinion exists as to the cause of the Calyx splitting. Under glass some claim it is uneven temperature, others deny it. No doubt there are several causes, yet often it is in the variety, again, propagating from "run down" or weak stock. We can suggest no remedy.

BETTER THAN MEDICINE.

Tomatoes rouse torpid liver and do the work, ordinarily, of a doctor's prescription.

Lettuce has a soothing, quieting effect upon the nerves and is an insomnia remedy.

Celery is an acknowledged nerve tonic, and is more and more used in medical prescriptions.

Onions are also a tonic for the nerves, but people will be forever prejudiced because of their odor.

Dandelions purify the blood and generally are declared to tone up the system.

Potatoes should be eschewed by those who "have a horror of getting fat," as that is one penalty of eating them.

Watercress is a "good, all-round" brace-up for the system.

Spinach has medicinal properties and qualities equal to the most indigo of all blue pills ever made.

Parsnips, it is now contended by scientists, possess almost the same virtues that are claimed for sarsaparilla.

Beets are fattening, even a moderately learned man will explain, because of the sugar they contain.

Ordinary lima beans, some one has said, are good to allay thirst, but the same can be said, with equal truth, of a pitcher of water.

Asparagus is efficacious in kidney ailments to an extent that is not yet, perhaps, thoroughly appreciated.

Cucumbers, aside from sunbeam emitting properties known to readers of facetious paragraphs, contain an acid that is helpful in cases of dyspepsia.

Pumpkins are an ingredient in a patent medicine that is guaranteed to cure a variety of ailments flesh is heir to, but the world is increasing in inhabitants who do not believe all they hear.—What to Eat.

THE BAMBOO.

Many of the Japanese and Chinese varieties of bamboo are extremely ornamental, and very pleasing in landscape effect. They are also valuable planted in clumps or as hedges, as screens, windbreaks, or to hide some unsightly object. For decorating purposes in the house, as at weddings, nothing is more graceful and lasting than the green of the bamboo, and in some cities it is in much demand, high prices being obtained for it. The utilities of the bamboo are almost endless. It must not be confounded with Arundo donax, a reed-like plant, growing to a great height and sometimes, though erroneously, called bamboo.

WAR.

"Taking my life in my hands, I advanced into the very midst of the cannon, until both my arms were shot off!"

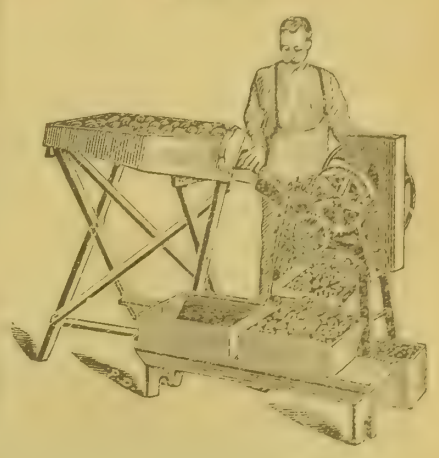
"And then?"

"Sir, I took my life in my teeth and pressed on!" exclaimed the old veteran, with glowing eyes.

The regular annual meeting of the Society of American Florists and Ornamental Horticulturists will be held at St. Louis, Mo., in August.

THE "BRIGGS" NEW IMPROVED
FRUIT PITTING MACHINE

MODEL 1904



Is Practical In All Its Workings

It cuts the fruit entirely round and pits it more carefully than can be done by hand.
The work is done with wonderful rapidity, six pits being extracted at each revolution of the wheel, whether the fruit be large free-stone peaches or plums of the largest size. It is capable of handling

Two Tons of Peaches, and One Ton of Apricots Per Hour

Thousands of tons of apricots have been satisfactorily cut and pitted with these machines.

It Does Not Push the Pit Through the Fruit

But holds the pit firm while the fruit is carefully removed without being bruised. The pits are delivered separate from the fruit.

The Advantage of This Machine Is Very Apparent

As one machine and one man practically represent fifteen or eighteen cutters. This perfect machine, which is guaranteed, is the result of 12 years of experimenting and improving. These machines will be rented for the fruit season for fifty dollars each; for sale at $150 f. o. b. Los Angeles. Address

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CITRUS FRUITS

PRUNING THE ORANGE.

(Continued from first page.)

if the head of a twelve or fifteen year old tree is cut down to the size of a five-year-old tree, the natural balance between root and top is destroyed. The feeding power of the root remains, while the head has been reduced more than half, and the inevitable consequence is an excessive flow of sap for the quantity of foliage and fruit remaining, resulting in coarse, oversized fruit; and, as in Mr. Peyton's orchards numerous cases of gum disease, which are visible and being treated. Besides, not a few of his trees have failed to respond to his heroic treatment, having died and been replaced by young trees.

Doubtless the future will develop further results from Mr. Peyton's experimental innovation in pruning the orange tree. But to those of us who have spent a decade or two in companionship with, and studying the habits of this most charming of fruit-bearing trees, your warning not to "jump too soon," is hardly necessary at this stage of the proceedings.—E. J. Yoakam, Highlands.

* * *

In addition to the above, we have the following from Covina, which may cause some of our Lamanda Park subscribers to give the results of the experiments of Mr. Dolge. We believe Mr. Dolge no longer has control of the orchard referred to.

Editor Cultivator: Reading the article in your issue of May 27, on "Pruning the Orange," I am reminded that three or four years ago, maybe five years even—Mr. Ernest Dolge, of Lamanda Park, in the Cultivator, described a method of pruning the orange—with cuts, I believe, which was substantially the same as the Baronio system of lemon pruning and urged by substantially the same arguments. It was, therefore, a sort of forerunner of Mr. Peyton's experiment and it may seem worth your while, by personal visit, or written inquiry, to learn what has been the result of the experiments of Mr. Dolge to make the information afforded by the Cultivator more complete and useful. Very truly yours, S. P. Jennison.

Editor Cultivator: Referring to a recent bulletin on citrus culls for fertilizer, A. M. Seeley, of Covina, recent horticultural inspector, has called my attention to the fact that when culls are returned to or put on an orchard, which has fruit on the trees, that the culls should be immediately turned under, as all culls are apt to have more or less mouldy fruit, and that when this mouldy fruit is lying exposed on the ground, the wind and flies carry the spores to the fruit on the trees, which when picked and packed causes a much greater percentage of it to mould than if there had been no culls placed in the orchard.

The conclusions to be drawn from Mr. Seeley's just criticism are: First, work the culls under immediately when placed in an orchard containing fruit, or second, put them in an orchard where the fruit has been picked, or third, put them in young, non-bearing orchards.—S. M. Woodbridge.

Every being that can live, can do something; this let him do.—Carlyle.

ADVERTISING SUGGESTION TO BOOM LEMON SALES.

A Riverside lemon grower has made the very sensible suggestion that the following matter be printed on every lemon wrapper used; the matter to be printed under the caption: "Lemons for Health."

Lemon juice kills typhoid germs.

Lemon juice kills pneumonia germs.

Lemon juice counteracts uric acid.

Take the juice of half a lemon in glass of warm water before breakfast, for biliousness and as a cleanser.

It is certainly a fact that shippers and growers are missing an opportunity for inexpensive and effective promotion work by not having some matter like the above printed on the wrappers. The Press would go even farther and have placed in every box of lemons and oranges, little recipe books detailing different ways in which oranges and lemons could be served and used in cooking, and calling attention to their medicinal value. Advertising of this character would be very effective and cost but a trifle.—Riverside Press.

Within a week the citrus fruit growers of the Pomona Fruit Growers' Exchange received $18,500; of Claremont Citrus Union, $11,000; of Indian Hill Citrus Union, $10,000, and of San Dimas Citrus Union, $7000, making a total of $46,500 for the week.—Pomona Times.

Five hundred and fifty cars of oranges were shipped by the Exchange from Pomona this season—140 cars more than last. Several more cars will be shipped before the season closes.

The Armstrong Nursery Co., of Pomona, have received 1800 roses which they have planted for next season's trade.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

THE ONLY HOPE.

Along the lines of general co-operative opinion there seems to be no wavering. As many of the old-time advocates of the Exchange believe, a large number of those who should be frinedly to the co-operative idea have become confused over the circumstances that have dominated the season. Hence, we have the paradox of more people awaiting the opportunity to join associations of their fellow growers, with more diversified views than ever held before as to the best methods of carrying out the main proposition, namely, the selling of their products. At the picnic of the Farmers' Clubs, recently held at Pomona, this diversity was manifest in the program of speakers, and apparently was reflected in the audience in their patiently listening to the absurd advocacy of a return to the commission method of fruit marketing. The result of this condition of diversified opinion, while it finds the spirit of co-operation more general than before, makes the practice of the idea most difficult and the results most uncertain.

Only a portion of the farmers seem to realize that changes have been wrought in the citrus industry since the Exchange was organized, that make concurrence of action vastly more imperative than it was a few years ago. In consequence of this lack of understanding, we see a large number of the growers willing to try any expediency, not realizing the fatality of any plan which may not be adopted by a body sufficient in number to protect their interests in their own way.

One of the changes that has come over the industry is the equalization of supply and demand through the enormous production of citrus fruits in California and Florida, the processing of winter apples and the winter or early spring growing of small fruits and vegetables. If the Exchange were necessary in the earlier days to regulate the marketing of a small supply of citrus fruits, with no cold-storaging of apples and no Florida competition, how much more, then, is it necessary when oranges and lemons are grown so abundantly that the individual lots of our fruit come into competition with each other from pure force of quantity. That the farmer under these conditions must become more thoroughly his own distributor is but the outcome of the action of a natural law, i. e., the law that requires, under these circumstances, the exploiting of every possible market. If it is left to the middlemen to apply this law, failure will ensue. Their profits come from the quantity of fruit they can handle, while the profits of the producer arise in the difference between what the fruit cost in growing and what he receives for it. As the thorough distribution of the fruit would cost the dealer more in time and expense he is not a favorable medium through which to expect immunity from congested markets. Hence the only source through which proper distribution can be had is the growers' own organization, whose success comes from making the best sales possible, not the most sales in one market, as is the case with the broker or wholesale dealer.

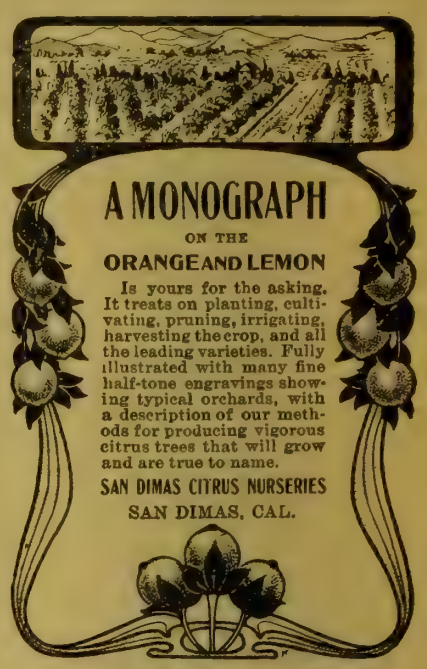
No matter what the diversity of opinion as to sales methods (and these diversities will be largely eliminated during the coming season). All will agree that certain principles and conditions apply to this industry. The farmer is no longer a producer and manufacturer for a small home market. Once he could serve his own interests with absolutely no knowledge or dependence upon the general markets of the country. Transportation of produce had no terrors, for he did not transport, and the various activities, the state of the country's finances and even the tariff were of no perceptible importance. The orange farmer is now a large buyer, affected by prices of the commodities he needs to make his products merchantable. He is the heaviest freighter in the State, affected by every change in transportation rates and time of delivery. The grower is engaged in merchandizing upon an immense scale. He is interested in all that the world has to offer in competition with his fruits. He has now become the subject of exploitation by the speculators and commission men. When the farmer produced for his home market only he knew its limitations and probable profits. Now the business of selling his goods has become so complex that he is obliged to combine, if for nothing more than to obtain market intelligence, otherwise beyond his reach, the products of the individual farm will not justify the expense of this information. This marketing intelligence is far more essential and yet far more difficult to obtain as the activities and combinations of the farmers' exploiters increase.

If the magnitude of the citrus fruit growers' crops, the competition from other fruits, the machinations of the trade, weather conditions and his own crop conditions were not enough, there are a score of incidental influences that singly or altogether may cut a large figure in the results. With all these working against profitable prices and most of them subject to regulation or control, the orange farmer who advocates each one going it alone is either ignorant or thoughtless, and of no assistance in the attempt to make a great, profitable industry from the orange business. Let there continue to be a firm allegiance to co-operative ideas. It is the only hope.

HIS SYMPTOMS.

Farmer Clodpelter—Colonel Chinnaway says he is out of politics.

Farmer Bentover—Yes, I know he says so, but I notice he's actin' like a feller that is mighty afraid the nomination for Congress will sneak up and bite him on the leg.


A MONOGRAPH
ON THE
ORANGE AND LEMON
Is yours for the asking. It treats on planting, cultivating, pruning, irrigating, harvesting the crop, and all the leading varieties. Fully illustrated with many fine half-tone engravings showing typical orchards, with a description of our methods for producing vigorous citrus trees that will grow and are true to name.
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Is offering the cleanest and best line of citrus trees in California on Sweet, Pomelo or Trifoliata Root. By using Trifoliata root you insure yourself better crops and no injury from frost. Also full line of other fruit trees and berry plants. Drop us a card if interested.

QUESTIONS AND ANSWERS.

Editor Cultivator:—Will you please let me know through the columns of the Cultivator if tar or oil is good for barn roof; if so, how to apply and mix? —F. G. S., Cucamonga, Cal.

We have referred this to Mr. Bacigalupi of the Southern Refining Co., and he says that one of the best preservatives to be put on a roof is crude oil, principally one of the heavier California oils. This oil does not dry hard, but at the same time makes an excellent preservative. Body may be given to it by adding in cheap metalic, but the color cannot be changed, as the natural black of the oil prevents the lighter shade from showing. his paint can be applied simply with a whitewash brush, spread very quickly, and on cheap outbuildings is said to be very popular. It should be noted, however, that the small boy will probably not engage in sliding down the roof when this is used.

* * *

Editor Cultivator: Will you kindly tell me why my apple trees acted as they did after using the Paris green mixture carefully prepared and applied according to directions in your paper, put on in a fine spray after the blossom petals fell. In about a week after application I found the blossoms had all dried up and dropped off, and now, about a month after spraying same, new apple blossoms are coming out on the trees. I thought possibly the mixture might have been too strong, but the lime and Paris green were measured, as well as the water. The foliage was not hurt in the least.—M. E. M.

The above letter has been referred to Professor Woodruff, who, with Professor Clarke, of the State University, experimented so extensively with Paris green at Watsonville last year, and we trust will give definite reply in time for our next issue. We might say that if the leaves were not affected it can hardly be that the spray was the cause of the dropping of the fruit. We have seen cases where weather conditions were improper or lack of constant mixing has resulted in portions of the solution being so strong as to bring on great injury to the trees. This, however, is largely manifested by burning the edges of the leaves.

* * *

Please give rule for measuring alfalfa in stack.—M. E. B.

Multiply together the length, breadth and height to eaves, plus one-half the vertical distance from the level of eaves (or angle of stack) to crest—all in feet. Divide product by number of cubic feet allowed for a ton, about 400 cubic feet. If slope from the ground to crest is uniform, multiply together the length, breadth, and one half the vertical height, all in feet, and divide by number of cubic feet to the ton. The space occupied by a ton of hay will vary with the depth of the mow or stack and the kind of hay, whether coarse and hollow stemmed or fine and compact. Alfalfa would weigh more than barley, but we have no data as to the difference. We will be pleased to hear from subscribers as to the difference.

ECONOMY AND EFFECTIVENESS.

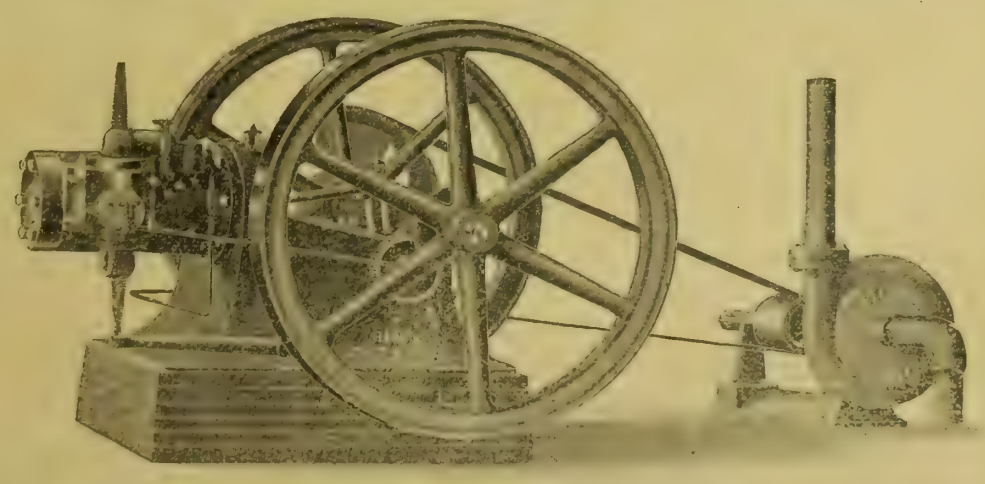
"Yes, we have sold more engines and pumping plants this year than ever before, and are now four months behind or orders." This was the remark of Mr. Frank Stearns of the Stearns Manufacturing Co., Los Angeles, to a member of the Cultivator staff last week, and, as we looked about in the factory and saw engines and parts of engines in all stages of construction, and every man as busy as possible, it certainly looked as if some effort would be necessary to clean up the work on hand.

The Stearns people have made the campaign on a good reliable engine at as low a cost to the user as is possibly consistent with good workmanship. It is one of the simplest engines we have seen, having few parts, and at the same time its users have claimed is one of the most economical as to fuel and repairs of any they have ever used. This engine has been manufactured and used in Southern California for a good many years, so that it is no new untried machine, yet it has never been pushed in the market as it has in the past year. The demands of the times, coupled with better facilities for manufacturing, have united in giving the large output.

The capacity of the machine shops is now to be very greatly increased by a new special machine, which Mr. F. L. Stearns is on his way east to secure There are now in the shops some three or four large labor saving machines which have greatly facilitated the construction of the past season. When these are supplemented by new machines which Mr. Stearns will secure in the east, the shops will be ready for a vastly greater output next year. One of these machines will do the work which formerly required ten hours, in less than one and one-half hours. This gives something of an idea of the improvements to be had.

While talking with Mr. Stearns a Tropico berry grower called in for parts to one of his engines, stopping but just a moment to say "She's running fine, in three full days only stopped once for cleaning." This grower has two engines and pumps, both supplied by the Stearns people, and has been the means of others of his neighbors buying the same machinery.

We give on this page a cut showing the Stearns engine attached to one of their centrifugal pumps. This is a six-horse power engine and No. 4 pump. Speaking of this cut reminds us of a new catalogue which the factory has just put out. It is one of the neatest catalogues we have seen; lists of various sizes of engines, of centrifugal pumps; also the Stearns pumping jack. This pumping jack is proving to be a little favorite where light power is wanted, something better than a windmill will furnish, and at the same time it may be run by light power. This jack can be run with a two-horse Stearns engine and give supply of water for a small for the least money, then to use a little printer's ink to show the people as to what the factory can and does do. Of course Mr. Stearns claims that their best advertisement that they have ever used has been the goods they have put out. This is always true, notwithstanding there may be good use to be made taking space in such mediums as the Cultivator.



berry or fruit ranch. The engine may be disconnected for other light power about the ranch, which is a material feature in farm economy.

Mr. Stearns informed the Cultivator that the ad which has been carried in it for the past year, has brought a great many inquiries, and is the means of making a number of sales, that is in part explanation for the fact that their ad is now occupying larger space than it did early in the year. The effort of the factory is to put out the best goods

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles.

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W J. Oliver, 109 No. Broadway, Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

INJURED HORSE.

Editor Cultivator:—I have lately come in possession of a valuable horse that was injured on his forward leg just above his hoof by a picket rope, leaving a bad looking scar which sometimes cracks open, making him lame, and I think there is proud flesh in it. He was injured three years ago.—J. S. W., San Jose.

There are two courses to take in reference to scar. One is to have the diseased, or foreign growth dissected out, making healthy wound, and heal up carefully; or use the following to keep the scar from cracking: Glycerine, 2 parts, Tinc. Iodine, 1 part. Rub a little well in as case requires.

* * *

PINKEYE.

Editor Cultivator:—Will some one please tell me through the Cultivator how to cure the pinkeye in calves or how to prevent it. Is there any way to make them immune from it?—Geo. Lewis.

You don't describe the disease you call pinkeye in calves—give first symptoms, at what age and if you have had the disease before this year; whether at pasture or in corral.

* * *

GARGET.

Editor Cultivator:—What would you do for cow with udder affected as follows: Udder swollen, usually in one quarter at a time; milk thick and not much of it, or in worse cases ceases altogether in affected quarter.—R. B.

Ext. Phytolacca and Belladonna, of each 1 ounce; Pulv. Camphor, 80 grains; Ung. Zinc Oxide, qs., to make 8 ounces; mix thoroughly. Rub a little into udder after bathing once a day.

* * *

Editor Cultivator:—I have a valuable Spaniel that is passing bloody urine. Please send me remedy and state cause.—C. C. Y.

Your dog has been injured in some way. Give one teaspoonful of sanmetto twice a day for five or six days.

GINSENG Fortunes in this plant. Easily grown. Roots and seeds for sale. Room in your garden. Plant in Fall. Booklet and Magazine 4c.
OZARK GINSENG CO., DEPT. V-4, JOPLIN, MO.

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THOMPSON SEEDLESS, MUSCAT, SULTANA vines and Cornichon and Tokay cuttings for sale. Also thirty other varieties of rooted vines of California and Eastern varieties. Also a supply of resistant roots. Nursery absolutely free from all vine disease.
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WE HAVE 20,000 Eucalyptus Rostrata
Left, and are cleaning them out at $10.00 per thousand. Specially quick orders are necessary to secure goods this season. We are now contracting to grow for next season. Let us know your wants.
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For Sale, a choice piece of farming property, containing 86 acres; 60 acres under plow and is A1 potato land. Land adjoins river. All irrigable land, fenced. For further particulars address W. A. MOREHEAD, LOMPOC, CAL.

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CLOTH GOODS · NETTING · WORK · BARB WIRE
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WEST COAST WIRE & IRON WORKS
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RUSTS

BY A. J. MCCLATCHIE, PHOENIX, ARIZ.

The rusts are among the best known of the parasitic fungi, since they are the ones that do the most injury to the higher plants. Their names refer to their appearance, at one stage at least having more or less the appearance of iron rust. The appearance of the plants is due not to the vegetative portion, but to the reproductive portion. They all grow within the tissues of the plants they infest, the vegetative portion not being visible from the surface. As the spores by which they reproduce develop, they rupture the outer portion of the tissue in which they are growing, thus giving to that part of the plant the appearance that gives them their names and also furnishing an opportunity for the escape of the spores into the atmosphere.

The spore masses of the rusts appear on the surface of their host plant as yellowish or browish spots or streaks, most frequently upon the leaves. Some rusts give to a whole plant a rusty appearance. They grow within a great variety of plants, including both cultivated and uncultivated ones, being destructive to both alike. Hence both the farmers' crops and the weeds that injure them are reduced in number by these parasitic fungi, there being altogether about 2000 species of them known.

A remarkable feature of the rusts is that as they develop, many of them pass through several stages, each of which has the appearance of and for many years was supposed to be an independent adult parasite. Of some species these different stages develop upon the same host plant, but of others at least one stage develops upon a different and unrelated plant. Some rusts pass through three stages and produce three kinds of spores; some pass through two stages and some have but one form. Each stage has its own characteristics, being known respectively as the first, second and third stage. In some cases the first stage is omitted, in some cases the second, in some cases the first and third, and in some cases the first and second.

The first stage of rusts is called the clustercup stage, the spores developing the receptacles that, after they have opened for the escape of the spores, form minute and variously fashioned cups. These cups sometimes grow in groups, and are in other species scattered over their host. The margins of the cups are commonly variously notched, and as they stand full of spores, present a beautiful appearance. The spores are produced in beadlike rows and are mostly yellowish or orange colored, in some cases giving the parts of the plant upon which they appear a brilliant covering. For many years this stage was supposed in all cases to be an adult form. Of some clustercups the other stages are still unknown, it being necesary, therefore, to continue calling them by the clustercup name until it is established what the other stage or stages are.

The most destructive stage of the rusts is the second one known as red rust. The masses of spores as they appear on the surface being usually quite a reddish hue. They generally break through the surface in masses or in long lines and are quite quickly carried by the winds to other plants where they give rise to the same stage. The office of the spores of this stage of the rusts seems to be to reproduce the parasite rapidly during summer. Before the relationship of the red rust to the other stages was known it was given the name of Uredo, and a few whose relationship is yet unknown are still called by this name.

The third stage is often called black rust, the spores in masses being quite dark in color. These spores differ considerably from those of the first and second stages which are intended principally for summer growth. Those of the third stage being intended to endure winter, or other unfavorable conditions, are thick walled and otherwise substantially constructed. Being the last spores produced during the season they are called Teleutospores, from two Greek words meaning "Completion spores." They vary in structure more than those of the other stages, some being single celled, some being two-celled, some being smooth and regular while others are fantastic in shape and markings.

Intermediate between this third Teleutospore stage and whatever stage follows it is a delicate short-lived stage producing minute thin walled spores that grow at once if they find lodgment on the proper plant. These spores do not develop within a plant but upon their surface, or upon any moist substance. Their growth commonly takes place in the spring and the spores are the ones from which the summer growth starts.

One of the common wheat rusts furnishes an example of a rust that passes through all of the stages, one of which develops upon a different plant. This rust commences its life history as a clustercup upon barbary bushes. It had been observed by the peasants of Europe and by the farmers of New England that wheat rust was more abundant and destructive where barberry bushes grew in the vicinity, years before it was determined that the first stage grew upon them. The fact that clustercups of the barberry bushes are the first stage of wheat rust is now easily demonstrated by scattering some spores of the former upon wheat and watching developments. The clustercup spores germinate upon and penetrate the leaves of the wheat, where the second stage, the red rust, now develops. During the summer the spores of this stage scatter and germinate upon other wheat plants and thus are the means of the rapid spreading of the destructive parasite. As moisture is necessary for the germination of the spores the rust spreads more rapidly and is more destructive during damp weather, and where the growth of wheat is heavy. During the latter part of the season the spores of the third stage develop either upon the same vegetative filaments that produce the red rust spores or upon a different part of the plant.

The black rust, the teleutospores, remain upon the straw or grain stubble through winter and the next spring germinate there and produce the short-lived spores from which the succeeding stage develops. These spores are formed on slender filaments that grow from the teleutospores, and if they find lodgment on young barberry leaves, germinate and produce the clustercup stage again, thus completing the round of life of this remarkable parasite. This rust is one of several hundred belonging to the genus Puccinia.

Another common grain rust belonging also to the genus Puccinia differs from the one described above in forming its clustercup stage upon Hounds-tongue and other members of the Borage family. But it is not dependent upon the development of this first stage, the infection of grain each spring being mainly due to red rust spores that develop from some of the vegetative portion that lives through the winter on surviving grain or grasses. This is the rust that is most common throughout the west.

Besides the grain rusts, others are parasitic upon asparagus, upon beets, beans, clovers, carnations, holyhocks, peaches, plums, apricots, roses, and a great variety of uncultivated plants. Rusts are more difficult to eradicate and prevent than most other parasitic fungi, there being no practical way known to prevent or destroy many of them.

H. A., of Garden Grove, wishes to know where to get seeds for rhubarb and what are the best varieites to plant?

Many of the seedsmen and nurserymen advertising in the Cultivator can supply the inquirer with the ordinary varieties of rhubarb, either roots or seeds. In any case we are certain Mr. Wagner, of Pasadena, has the Crimson Winter rhubarb, which is sometimes called Burbank Everbearing. This is considered one of the finest varieties to plant, and is as yet somewhat expensive, commanding, we believe, 50 cts. per root. The ordinary varieties can be had in quantities at 5 and 10 cts. each, or possibly less. The Monarch and Victoria are both good varieties and have done well in California. February and March are considered better times for planting than the present time, but with good care and protection from midsummer heat, might possibly secure good results. Planting at this time, if the ordinary varieties are used, better results may be had by taking the shady side of a fence or some place where the sun may not have full force on the plants. Frequent cultivation, with mulching or coarse manure, is advantageous. Rhubarb requires plenty of moisture, good soil, though a light soil, if well fertilized and irrigated, will be all right.

Mrs. M. C. Cuddeback, of Orange, asks as to mushroom culture in Southern California. How are they propogated, how is spawn preserved until ready for planting? Mode of planting, conditions of soil, etc.

The mushroom is probably not sufficiently extensive in its cultivation to justify complete answer to this question in the Cultivator. They are at present about San Francisco and Los Angeles, starting smaller plants for the culture of this delicacy. There are usually cellars built in an out of the way place, in which the proper degree of moisture, light and heat is maintained. The method of constructing these houses and manner of propogating may all be secured by writing the Secretary of Agriculture at Washington, D. C., and asking for Bulletin No. 53 on this subject, written by Wm. Falconer. Field culture in this dry climate is impossible, excepting for a short period of the year. The spawn may be secured of the seedmen advertising in the Cultivator, at least we are informed it may be had by writing Theo. Payne, 440 So. Broadway, Los Angeles.

"Some men," said Uncle Eben, "will put in weeks prayin' for rain, an' den kick cos' dey happen to git deir feet wet."

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Trees
Still remaining in our nurseries. We want to clean them up. ¾ inch, 1 inch and 1¼ inch. Write us.
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Growers of first-class fruit trees, vines, nut trees, flowering plants and ornamental shrubs of all kinds.
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You should call and see our apricot and peach trees. They are well grown and have great bushy roots. A large stock of roses, blue gums, etc. If not convenient to call, write for booklet.
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SHADE TREES
We have a big stock of the above left at reasonable prices. Also all other kinds of ornamental trees always on hand
Roses, Palms, Ferns, Vines,
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Valencia and Washington Navel Trees. All fine stock, true to name, and grown in frostless locality. Prices reasonable.
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General Agriculture

TO BUILD A RESERVOIR.

Editor Cultivator: I wish to build a reservoir to hold, say 150,000, 130,000 or 100,000 gallons. What should be the dimensions, and what is the most economical shape and thickness of the walls, materials, cost, etc? It is situated on the upper corner of a 10 acre lot, the slope of which is so gentle that it would be impossible to excavate any to speak of. I have heard of reservoirs constructed entirely of earthen embankments, plastered on the inside with cement or asphaltum, but have my doubts about their durability or economy.—Edgar Leavitt.

It is impossible to answer this question definitely without knowing the nature of the soil and the nearness of other materials for building, which would govern the answering of the question. We have seen good reservoirs placed in a heavy soil in which sheep were driven for some time and the simple packing of their hoofs was sufficient to make a water retaining surface. Again we have seen, with more porous soil, fairly good results by covering with cement on the soil. This, however, is liable to crack, necessitating more or less repairing and possible loss of water.

The conditions for economical building of that kind of reservoir are that there be a natural site in side hill, or else it is necessary to excavate quite deeply in order to secure the dirt for the embankment. As stated in this inquiry, it seems the fall of the land is so gentle that but little excavating can be done. If this is the case, it would necessitate hauling of material from the outside. Should there be near the site of the reservoir boulders or possibility of quarrying rock, we should imagine that would be the more economical material for building in this case.

We have seen reservoirs built of a single thickness of boulders, supported on the outside with embankment of dirt scraped about the wall. The bottom in this case covered with a coating of Portland cement on well tamped, closely packed ground. As to circular or square form being the better, we notice that the circular usually is the form used.

The dimensions for 100,000 gallon reservoir would be approximately 50 feet in diameter by 7 ft. deep; but in order to give information which will be of more general nature, we herewith give the rule for determining the content in gallons of a circular reservoir.

Multiply together the square of the diameter (in inches) and the height (in inches). Multiply the product by 0.0034.

But assuming that you might wish to know the manner of determining the contents of a square reservoir, we here give the rule for that.

Multiply together the inside length, breadth and heighth (in inches) and multiply by 0.004329.

Example:—If the circular reservoir be 50 feet in diameter and 7 feet deep, proceed as follows:

50 ft. equals 600 inches. 600x600 equals 360,000. 7 ft. equals 84 inches. 84x360,000 equals 30,240,000. 30,240,000 x0.0034 equals 102,816, which is the number of gallons in a reservoir 7 ft. deep and 50 ft. in diameter.

As to cost, a cement contractor or stone mason on the ground can give far more correct information.

METHODS OF PREPARING LAND FOR IRRIGATION.

The Office of Experiment Stations, U. S. Department of Agriculture, will soon issue a bulletin describing methods of preparing land for irrigation and applying water to crops in different sections of the arid region of the United States. In this bulletin the methods of getting rid of sagebrush, smoothing the ground, building laterals, and distributing water over fields as developed by the experience of farmers in irrigated districts are brought together and described. The tools and implements used are illustrated and the cost of the work, based upon actual examples in different States, is given. The purpose is to afford beginners a reliable guide both as to the cost of bringing wild land under cultivation and methods best suited to different soils, climates, and crops. The facts included in this bulletin have been gathered by the irrigation investigations of this office, acting in co-operation with the State experiment stations and State engineer's offices.

This bulletin brings out the fact, not well understood, that the cost of preparing land for irrigation is in many instances greater than the cost of building canals and reservoirs. Detailed figures of the cost of checking land show that it varies in certain districts in California from $9.96 to $18.08 per acre. This is more than twice the cost of the canal systems in the San Joaquin valley, California, which is given in the report of the Census Bureau for 1902 as $4.99 per irrigated acre. Where the preparing of land is contracted for the cost of checking varies from $7.50 to $20 per acre. The price of preparing land for flooding is much less—but is $5 per acre in Wyoming. The need of a better understanding of this particular branch of irrigation practice is becoming more and more important. Reservoirs and canals are but means to accomplish a purpose. That purpose is to increase the products of the soil. The value of the ditch or reservoir depends upon the acreage of land which it will serve and the increase in the value of the products which the use of water will bring about. The time is coming when the most important problems connected with irrigation will be the best means of applying water and not, as at present, those of canal and reservoir building.

About thirty different methods of applying water are now used. This does not mean that there are thirty distinct systems, but includes different ways of preparing land by checking compartments, deep and shallow furrows, flooding, sprinkling, and sub-irrigation. The bulletin oive some of the results of a series of tests of different methods of applying water and the difference in loss of water by evaporation in deep and shallow furrows and in flooding. About one and one-half times as much water was needed to irrigate an acre of land by flooding as was required in furrows 12 inches deep. About one and one-third times as much water was needed to irrigate in furrows 3 inches deep as in furrows 1 foot deep. A saving of one-third of the water by the adoption of a better system would mean not only increased profits to farmers but a large increase in the acreage which could be irrigated from canals or reservoirs.

CANNING OLIVES.

The Corning New Era in speaking of the big crop of olives in that section, Tehama county, and the advisability of pickling and marketing, says:

The present outlook is that there will be a heavy crop this year, and we believe that with the right kind of handling nearly every bearing tree can be made to pay. We recently saw some olives that were put up in cans here over two years ago, and every berry was in as fine condition as could be asked—firm and with a fine flavor. If a few dozen cans may be put up in that manner a thousand can be. It is just the same as with any other fruit; the good pays a profit and the poor does not. We believe there is good money for our growers in olives properly packed, and hope that everything in that line will be worked up this season.

BEETS.

There has been an increase in the number of beet-sugar factories in the United States from forty-three at the close of 1902, to fifty-six at the beginning of 1904. Fifty of these were in operation during the "campaign" of 1903. According to the report the sugar-beet crop of 1903 amounted to a little more than 2,000,000 tons harvested from 242,576 acres, the average yield being about eight and one-half tons to the acre. The prices which the farmers received for beets from the different factory companies ranged from $4.50 to $5.60 per ton, the average being nearly $5. The average gross returns to the farmers were, therefore, $42.50 per acre. The estimated cost of growing beets by irrigation is $40 per acre, and in sections where irrigation is not necessary, $30. If $35 be taken as the average for the whole crop of 1903, the average net profit to the farmers was $7.50 per acre. In some of the sugar-beet areas, the returns were very much higher than this general average. As in the production of other crops, much depends on the season, the character of the land, and the kind of farmer who grows the beets. Many farmers have cleared from $25 to $50 per acre. The best result on record for 1903 was secured by a farmer of Otero county, Col. He grew one acre of sugar beets at a cost of about $37.50; the yield of beets was thirty-three tons, for which he received $158, his net returns being about $130. The amount of sugar made from the beet crop of 1903 was 240,604 tons, as compared with 218,405 tons from the crop of 1902, and 184,605 tons from that of 1901. Within the past few years there has been a remarkable increase in the percentage of sugar in the beets. A few years ago 12 per cent of sugar was the standard. Last year in many cases the entire crop sold to a factory averaged 15 to 18 per cent. Many improvements are being made in methods and machinery used in the growing and handling of beets. The beet pulp produced by the factories is used by the farmers as feed for their stock more generally than heretofore.

"I told papa your poems were the children of your brain." "What did he say?" "Said they were bad enough to put in the reform school."

$85

Buys the

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Two-Horse Engine Complete.

Pump Jack Extra $12.00.

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Yours truly,
August O. Graft.

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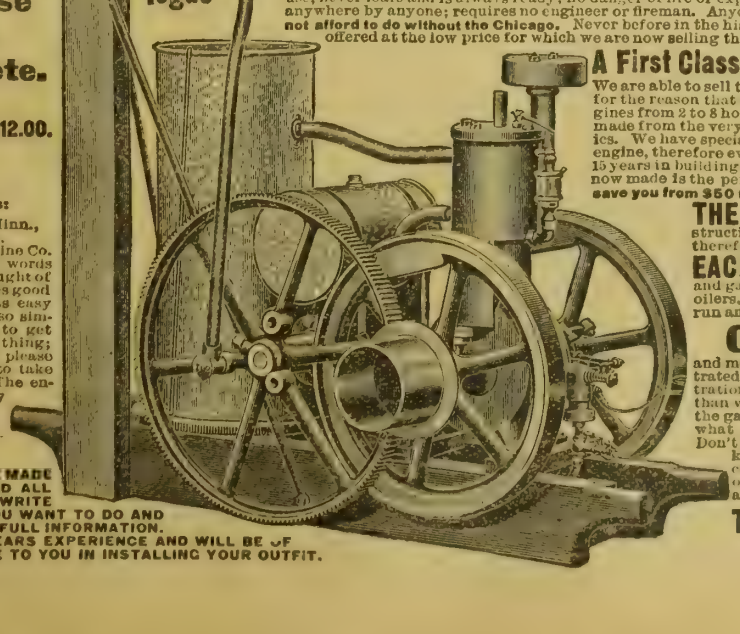

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The Chicago Gasoline Engine Co.,
57 N. Jefferson St., Chicago.

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Friday, June 17, 1904

CURRENT EVENTS.

Too Many Prunes.—Asked as to whether there are too many prunes now grown in California, Alden Anderson, manager of the California Fruit Distributors, said:

"No such thing is possible. The prune crop is a good thing and you can't get too much of a good thing like that."

But Mr. Anderson maintains that there must be more determined and persistent advertising of prunes. Their good qualities as food and medicine must be made known to a greater number of people. The people all over the east. They must be restored as the staple breakfast dish. The best of all the breakfast foods under the sun and yet have been forced out, in part, by the breakfast food advertiser. The thing to do, then, is to carry the war into Africa and let the easterners know that they miss the best dish on earth when the prune is not on the table.

Meantime let not the prune grower be discouraged, but continue to grow and enlarge the market. Then there will not be too many prunes.

* * *

Learn to Cook Them.—Mr. Anderson also maintains that the "boarding house prune" and other joshes on the prune have actually done great injury to the industry. Doubtless lots of people think the prune "too common." Whether this comes from ignorance of cooking or simply prejudice is little matter. It may be removed by judicious and liberal advertising. People must be taught how to cook and serve. The slushy mixture sometimes called "prune sauce" is not attractive. The writer of this well remembers a dish of prunes at the Palace Cafe in San Francisco. It cost 35 cents, or something over three cents per prune—not per pound, but per prune. The grower got about three cents per pound; they were fine large ones. They were cooked just right, served with powdered sugar and smothered in whipped cream. The memory of that dish still haunts. The serving of prunes like that will increase the consumption. The price—35 cents per dish—is high, but better that than the other kind at five cents. Let the prune men give us information as to prune cooking. The household columns of the Cultivator are open. A vast number of eastern papers will be equally as liberal, we believe.

* * *

No Royal Road.—The San Francisco Chronicle recently remarked on the great amount of discussion which the papers of the orange section are engaging in in the effort to market the oranges and advised the producing of such staples as wheat, potatoes, dairy products and others which require no organization, no effort, but are always in keenest demand in the market. Maybe the wheat grower will have no further trouble with freight rates by ship or rail, or with rust or with over production. Maybe the potato will never breed another scab, and may be the dairyman will see no more "hog butter" in his dreams. May be the royal road is open to certain lines of agriculture, but we imagine there is yet opportunity for accomplishing good results by strenuous effort in any department of agriculture. This effort will do orange growers good, as it does other people good to subdue self and unite with neighbors to accomplish results.

"Any dead fish may float down stream, but it takes a live one to go against the current."

* * *

Green Fruit.—Green fruit sales have been very satisfactory this year. The quality of cherries has been of the best and has found ready buyers. One car of Newcastles sold in Chicago last week for $3093, and the wire came back: "The car was the best packed and best condition of Newcastle cherries ever sold here." Up to the end of last week 150 cars of cherries passed Sacramento for the east. 'Cots are going forward from the northern districts, commanding $2 or more per box.

* * *

Railroads Liable.—In the case of the Georgia Peach Growers' Association against the Atlantic Coast Line Railroad Company and others, involving the liability of the carrier for damage to fruit through negligence, as well as the question of proper freight rates, the commission holds that the transportation companies are responsible for the damage to fruit to the full amount of injury sustained, without regard to the valuation placed on it. As California fruit growers have similar cases before the Inter-State Commerce Commission, there is a feeling that a similar decision will be reached. The commission also held that freight rates may not be advanced in proportion as valuation is fixed by shipper.

* * *

Good Roads.—It is estimated that two-thirds of the present cost to farmers of transportation of crops to railway stations would be saved by good roads. This would mean $6,000,000,000 saving per year to the farmers of the country. The cost of such roads will be from $2000 to $5000 per mile and cannot be borne by abutting farm land, but should fall according to benefits. The more immediate and direct benefit is to the farmer, but city and State should bear its proportion as they are benefitted. California should have the best roads in the world. It has good material and no frosts which destroy roads once made.

* * *

More Beans.—One of California's industries which production has not yet caught up with the demand, has been the bean crop. The acreage has increased yearly and the outlook this year with the old crop, which was one of the largest ever raised, nearly all out of the way, is of the best. In fact, the stock in hand is estimated as hardly sufficient to meet the needs till October, when the new crop comes in.

* * *

A Word to Girls.—A word to country girls, we were about to say, but the word country is too liable to imply countrified, or crudeness, which does not apply with as much force as it did some years ago to the young people who reside on the farm. Especially is this true in California. The advantages which are given to young people of today reach to the most remote sections and some of our brightest young people are on the ranch or amongst the fruit trees. But with these bright young people, there is sometimes a glamour in the city. For these we have a word, that is "don't." Or if you will, then consider well and we will give another word of advice. Or tell of an incident which will carry its own advice.

Recently the Cultivator had occasion to secure a stenographer and typewriter. The applications and the number which might have been secured were innumerable. One, a young lady, but a few weeks from Chicago, perhaps twenty-eight years of age, apparently most competent, with finest commendations, said that in the East she had commanded $60 per month, with opportunities on the side for further earnings. But here as a stranger she had been unable to get work and would gladly take work at $8 per week. She said she could not live and dress on that but it would keep her alive for the time. Others were willing to work for less—$7.00 and even $5.00.

At the same time in one of the homes represented in the Cultivator office the housewife wished a woman to do sewing. The difficulty of getting sewing women was great. Finally, by greatest of good luck, one just from the East was found. She asked $2.00 per day and board. Had been here five weeks and had work nearly every day, and before she left the home in question, was engaged by others for three months ahead. She was rapid and competent, of course, but wise enough to choose a calling not overfilled.

Now, it is not proper to apply a moral, but a further fact or two may be mentioned. A girl, whose home is in the city, may live on $5 to $10 per week, but the girl who pays board and dresses herself on that figure, must be a good economist. Sewing may not be so attractive but it is more remunerative. Still better, the opportunities on the farm, with poultry, with flower seeds, bulbs and other money makers, give an independence which may never be had in the city.

TAXATION.

The trouble is that neither railroad, mining nor mercantile property ever is adequately taxed. Neither is the unproductive property of rich men, such as works of art, automobiles, tapestries, costly rugs, plate and the like ever adequately taxed, while the poor man and the man of moderate means ordinarily return their household effects at nearly the full value which they would bring at auction. What the Grange Committee needs to get after in order to equalize taxation is the real estate of railroads and other corporations, mercantile stocks in trade, objects of luxury and display, and earning capacity or "faculty," as early New England tax laws called it, or "franchises," as we usually call it now.—S. F. Chronicle.

The State Grange has a committee at work endeavoring to reform the State law in this respect. There is a large number of "Granges," or Patrons of Husbandry north of the Tehachapi, but not one in the south. But if the Grange will get in touch with the Farmers' clubs it will find them a power along the line of assisting the movement toward any legislation beneficial to farmers.

I have before me a letter from a Parisian friend, a gentleman of some literary note in his own country, who infroms me that he is learning English by the aid of a small text-book and dictionary, without any other instructor; and he adds: "In small time I can learn so many English as I think I will come at the America and go on the scaffold to lecture."—Detroit Free Press.

Send It East.

Almost every subscriber to the Cultivator has friends "back east" who are thinking of California—waiting for the time when they can come here for a visit or to make their home.

The Cultivator is not a boom paper. It does not enter the field of immigration promotion. Its purpose is to be a "cultural" paper, to be helpful to the farmers and their wives now living here, and from this fact we believe the information we print from week to week is just what infending residents of California also need. Actual life, actual conditions, actual wants, is what they wish to know.

It will only cost you a one cent postage stamp weekly to send your copy to a friend after you have read it.

Send It Along.

...NEWS NOTES OF THE PACIFIC COAST...

HORTICULTURE.

Apricots are being shipped from Fresno to the east.

A heavy pack of peaches is anticipated this season at the Chico cannery.

Early predictions of the Florida orange crop place the output for 1904-5 as no larger than last season.

Berries in Southern California are proving to be a big yield this year and the market is holding up unusually well.

Peaches from Texas are now in the eastern markets and will compete with California pears and apricots for popular favor.

While cherries are going forward rapidly, yet there is little hope that the 211 carloads of last year will be equalled this season.

The total citrus fruit shipments from Corona for this season amount to over 775 cars. Last Saturday fifteen cars of lemons were sent east.

Several carloads of strawberries from Watsonville are sent to San Francisco daily. The price so far has ranged from $4 to $6 per chest.

Riverside shipped 140 cars of oranges and 23 cars of lemons last week. For the season 5115 cars of oranges and 280 cars of lemons have been sent out.

A correspondent writing us upon the outlook for grapes in Sonoma county, says the crop promises well and the price will probably be $15 per ton—for wine grapes.

Orange growers of the Fernando valley have received about $7500 for fruit shipped during April. The Press says the average price for the season will be about 60c per box.

The citrus shipments for the season to June the 6th were 23,645 carloads; to the same date last year 18,088 cars were shipped; 1902—15,453; 1901—20,538.—Covina Argus.

The Pajaronian of Watsonville says that owing to shortage of the apricot crop in the north half of the State that growers in that locality are expecting to sell their 'cots for $50 per ton, green.

The first carload for the season of apricots was shipped to the east from Winters last Thurday. The fruit was in fine condition and it is expected to bring a fancy price in the Chicago market.

California may lose its great parasite expert. It is stated that Alexander Craw has been offered $5000 per year by the Hawaiian government to accept the position as chief entomologist. California should keep Mr. Craw.

The large cannery at East Napa is now working on cherries. Commencing about July 1st the work will be on full blast. Fruit will be handled from Placerville to Visalia. At present the plant is pickling Royal Ann cherries, making what is known as Maraschino cherry.

A shortage of cars is reported from Redlands last week, which caused the packing houses to close down with quantities of oranges on hand ready to ship. The car famine is supposed to be caused by the shipping of deciduous fruits in the north.

The Anaheim Gazette says that local apricot growers have contracted with the North Ontario drying works for drying their fruit at Anaheim. The 'cot crop in Orange county will be large this season and it is thought $20 and better per ton will be paid growers for their fruit.

The Phoenix Fruit Company of San Jose are packing large quantities of cherries in barrels which, after being filled with fruit, are also filled with water, and the whole sealed up. They are sold in the market as brandied cherries and largely bought by foreigners.—Campbell Visitor.

The Evergreen State Fruit Company will establish, at its large orchard near Spokane, an industry for the manufacture of apple cider wine, champagne from apple juice, preserves, jellies, etc., in an effort to use all non-shipping fruit profitably. Prof. W. D. Carlisle will superintend the industry.

The prospects for wine grapes in the San Joaquin are unusually good, and prices will be better than last year. Contracts are being made to pay growers $12 per ton cash for a period of five years, with a guarantee of higher prices if the market will afford. The new disease in the vineyards about Lodi and Woodbridge, which was causing considerable uneasiness last year, has been overcome by spraying.

Delegates who met in Riverside last week to form a permanent organization of independent citrus growers voted to appoint a committee of seven to outline a plan and make all needed arrangements. The committee appointed was composed of A. S. Bradford, Placentia; J. A. Booty, Santa Ana; J. L. Means, A. Crab, Pomona; E. J. Oatman, C. F. Streight, Riverside. This committee will themselves appoint the other two members.

AGRICULTURE.

Grapes and grain will both be an exceptionally good yield in the San Joaquin valley this season.

B. E. Street, of Pomona, has sold to Ontario parties 100 tons of alfalfa at the baler for $11 per ton.

At a recent Farmers' Institute, held at Courtland, John Isaac said that he had discovered the malignant pear blight in that locality.

Twelve hundred acres have been planted to beets in the Pajaro valley this season, which are doing well. The yield is estimated at 1500 tons.

W. E. Meek, while at Coachella last week, contracted for the planting of a five-acre asparagus seed bed, to be transplanted next season into rows on his 160-acre ranch at that place.

A new road on the top of the ridge of the Santa Cruz mountains is to be built by Santa Clara and Santa Cruz counties, which will open up a large strip of new territory.

The Chino Land company will plow about 800 acres of beet land with their big steam plow during the next three months. The land will be allowed to rest till next spring, when it will be planted to beets.

The report of the managers of the Rhubarb Growers Association at Oakland shows that the past season has been unusually good. In all 46,083 boxes were sold by the agency at an average price of 86 cents per box.

Three destructive fires did great damage to grain in the field near Sacramento last Friday. The fires burned over a strip of land nearly four miles across and owing to a high wind could not be controlled.

The large acreage in Santa Barbara county planted to hay has resulted in a crop of sufficient tonnage to make the price reasonable in that locality for the balance of the year. Dairymen have laid up a good supply of feed.

The lands in the bed of the old Tulare lake, which are not flooded this year, are producing another marvelous crop of wheat. From 60 to 90 bushels per acre is the size of the crop. These lands are now being bought up by speculators.

There is being built in East Los Angeles a mushroom cellar or house, size 50x16 feet, from which the owners expect to sell from fifty to one hundred pounds of mushrooms weekly. The market ought to be good for this enterprise.

Owing to floods and recent hot winds the hop crop in Sacramento and Yolo counties will be short this season. Harry Fraser, a prominent hop speculator, states the crop in the State will be 10,000 bales short of last year, which was below the average.

The first car of cantaloupes for this season was shipped from Coachella to Chicago last week. These melons were pronounced by an expert to be the fanciest kind of fancy fruit, and he predicted it would sell for the highest price ever obtained for a carload of cantaloupes.

F. M. Smith, of Ventura county, reports the bean acreage short this season; also the beet crop late and a smaller number of acres set out; the apricot crop will be extra good; very little blight in the walnuts, which now promise a good crop; many new pumping plants for irrigating are being installed.

MISCELLANEOUS.

Senator Bard and associates are to build a big seaside hotel at Ventura.

The trolley line at San Bernardino is to be extended to Rialto very soon.

The National Good Roads convention will be held at Sacramento next year.

The brick factory at Corona is turning out a fine white pressed brick which is in good demand all over Southern California.

J. G. Overshiner has suspended the Julian Miner and started the Imperial Herald. There is plenty of room for the second paper in the metropolis of irrigated Imperial valley.

The Central California Honey Producers' Association, at a meeting held last week, elected H. L. Weems as eastern sales manager. Stock in the association is selling rapidly to bee men.

Five young Jews from Kishnev, Russia have arrived in the Sacramento valley to make their homes on California farms. Fifty families, also refugees, will shortly arrive to join the first arrivals.

At their last meeting the Anaheim Valley Irrigation Association voted to join with the Santa Ana Valley Irrigation company in the purchase of 295 acres of water bearing lands in the Shorb tract of the Santiago ranch, for the sum of $3750.

The government has granted a franchise to California capitalists to build an electric railway into the Yosemite park, starting at Merced. Stations will be erected every ten miles. The running time from Merced to the park will be from five to six hours.

A franchise was last week granted by the Supervisors of Tehama county to M. V. Steifer to build a water works and irrigating system at Corning. Besides supplying that city with water, the purpose is to irrigate nearly 100,000 acres of fruit and farming lands.

By a recent decision of the Supreme Court, those parties who bought land from the State, in Tulare county, known as lake lands, will have a rebate given them on the purchase price after proving that they have reclaimed the same. The Tulare county treasurer has $71,000 on hand received on this land, which will have to be refunded.

The board of trade of San Bernardino is making an examination into the timber lands of the mountain slopes from which the water for irrigation of the valley is derived, with a view of asking the government to allow only as much timber cut as will not affect the water shed. Should the timber be all cut off the water in the streams in the summer time will be seriously affected.

LIVE STOCK.

An outbreak of anthrax is reported in Rio Vista.

The next wool sale will be held at Ukiah June 21st.

Last week 189,300 dozen of eggs and over 2300 dozen poultry were marketed at Petaluma. The price for eggs was from 18 to 20c.

The Supreme Court of the U. S. has decided that the law is constitutional placing a tax of ten cents a pound on oleomargarine, or imitation butter.

The Dutard, Purissina and Burton ranches, near Santa Maria, were purchased last week by a syndicate which will operate them as a big cattle ranch.

The five Tognazzini brothers have organized a company, capitalized at $100,000, and will conduct a general land and cattle business in northern Santa Barbara county.

The new milk condensing factory at Hollister, by paying a higher price for milk than the creamery there could afford, has caused the latter concern to close for the present.

Last week Henry Singley sold his entire clip of about 10,000 pounds to Mr. Farmer for 20 cents. The same buyer went over to Anderson Valley and bought about 100 bales for the same price. Our people are tired of wool sale day and the combines the buyers go into to run the prices down, and are learning to sell as soon as they get ready.—Ukiah Times.

The Hynes Co-operative Creamery Association has completed its organization, adopting by-laws and electing directors. The following are directors: H. W. McKelvey, president; Ed. German, vice-president; Robt. Syrett, W. H. Brown, and A. E. Matson, the latter being secretary. There are about forty members, each member being equal in voting right. The membership costs $100 each, and no one may hold but the one, the organization being under the law of '95. This is one of the best laws ever passed in the interest of farmers who would co-operate in marketing or in producing.

C. H. SESSIONS, ASSOCIATE EDITOR

VALUABLE POINTS.

As the result of several years' experience the Wisconsin station publishes the following conclusions:

1. From the breeding records of 514 ewes at this season we conclude that for such animals and conditions as ours the normal period of gestation ranges from 144 to 150 days after the date of service, and that more ewes will lamb 146 days after service that at any other time.

2. There is no appreciable difference in the period of gestation for male and female offspring in sheep.

3. There is an apparent relation between the duration of the period of gestation and the period required for reaching maturity. Quick maturing breeds appear to carry their young for a shorter period than those breeds requiring more time to mature.

4. Large lambs are on the average carried in utero for an appreciably longer period than small or medium lambs.

5. Lambs dropped before the 144th and after the 149th day of pregnacy are lacking in strength and vitality at birth.

6. Shorpshire ewes were more prolific than any of the other breeds and crosses except the fourth cross of Shropshire rams on a Merino ewe foundation.

7. From the data presented it is apparent that twins are the normal increase of ewes of the mutton type.

8. One year old rams are not so prolific as those two or three years old. Ewes also average a larger percentage of increase in lambs after they reach full maturity at 3 years of age until after they are 6 years old, when the rate of increase diminishes.

A VALUABLE STUDY.

Several weeks ago, C. W. Campbell, secretary of the Jersey Breeders' Association of Southern California, conceived the idea of procuring a photograph of the very best and nearest perfect ideal Island type of Jersey cow that could be obtained in America, or abroad, for the purpose of having a cut made from the same to be used on the club's letter heads and thereby distribute it among breeders for their careful study and as an inspiration for those who are making an effort to produce the highest and most useful type of the breed. With this view he wrote Mr. T. S. Cooper, of Coopersburg, Pa., asking for just such a photograph, and his judgment regarding the same, for its public endorsement. Mr. Cooper is the greatest importer of such animals and is thoroughly familiar with the best there is on the Island of Jersey, in England and in America. In response he sent a photograph of what he endorsed as " the grandest cow that ever crossed the Atlantic."

This office has had the photograph reproduced to halftone and has printed for the club a supply of stationery showing the cut. It will doubtless prove of much interest and benefit to those interested in such stock (and who is not?) and the club will be pleased to distribute it to those desiring it. Write Mr. Campbell at Buena Park, Cal.

It may be of interest to add that there are already several descendants of the cow in Southern California.

SALT AND CHARCOAL FOR HOGS.

We have always made it a rule to keep plenty of salt available for the use of hogs. Salt ought to be kept at the end of the hog trough or in the feed pen at all times, and placed where the herd can have daily access to it. Hogs require salt just as much as other stock. Charcoal and wood ashes should also be put where the hogs can have all they want to eat. Charcoal is relished by swine of all ages, and they thrive upon it. Burnt corn cobs make excellent charcoal. If the swine raiser will see that there is always plenty of salt and charcoal in his feed pens available at all times of the year, he can count on his chances of not having cholera as being much better than his neighbor who neglects to supply the above substances.—Farmers' Tribune.

CULL THE HERD.

Present conditions indicate that feed for dairy cattle will be high during the coming season. With the class of animals most generally in use, the business will require most careful judgment and management to be of profit. The great majority of cows in the dairy region scarcely show a fair profit during the entire year under normal conditions, and a large number are kept by thoughtless or careless owners at an actual loss. The temperament or idiosyncracies of the man who will continue to keep a number of animals from year to year that are an actual drain on his labor and income is difficult to understand. It just seems that there are many owners of mongrel dairy stock who actually lack the thinking force to see conditions as they exist and the nerve to sell a milking nuisance at butcher's prices.

But poverty often works blessings to its most devoted worshippers, and in some cases the time arrives when even the treasured boarder (the consuming cow) must go for some more pressing need. The essential misfortune is that she does not leave behind enough to procure another that shall in reality be a support to the family. But the worthless ones go, and that is of much benefit.

It would be far better, however, and the true business policy, to carefully investigate the actual worth of each animal in the herd and weed out those not showing or promising a good profit in season to meet the exegencies of high priced feed with a number of cows that shall prevent the losses and that shall be yielding a fair profit for care, labor and expense. Even the best are none too good, and the man who has even half a dozen of really good cows may congratulate himself that his conditions are as rare as they are profitable. Such circumstances are possible and should be striven for with a determination to allow no prejudices or lukewarmness to stand in the way. And the result will be profit and contentment.—C. W. C.

TAKE CARE OF THE FARM TEAM.

The farm team during the busy spring season should be taken care of properly. Just now are busy days for the work horses on the farm, and for the next two months they will meet the brunt of hard team work. When taking a drive to town, don't rush the farm horses. If the farmer is without a driving team or horse, he should not forget that fast driving on the road means a loss of flesh and is a hard strain on the work horses. It pays to keep the harness adjusted, oiled and made pliable at all times to prevent sore shoulders and galls. Keep it so adjusted as to fit the horse it is intended for. Not only should the harness be adjusted properly, but the farm implements as well. See to it that the clevis and whiffletrees are doing their work at a proper angle and that all implements are being run smoothly so as to reduce the draft as much as possible.

When a hot day's work is over, it is a good plan to wash the parts covered by the harness, especially the shoulders and back, with cold salt water. Look well to the feet and see that they are kept clean; if there is dirt lodged in the hoofs, remove it, and keep the feet looking clean.

The above suggestions if carried out will have much to do in keeping the work team comfortable and in getting the most out of them.—Farmers Tribune.

DRIED BLOOD.

Remember that the dried blood used for fertilizer is not the stuff to feed to calves. Blood meal is specially prepared.—Rural New Yorker.

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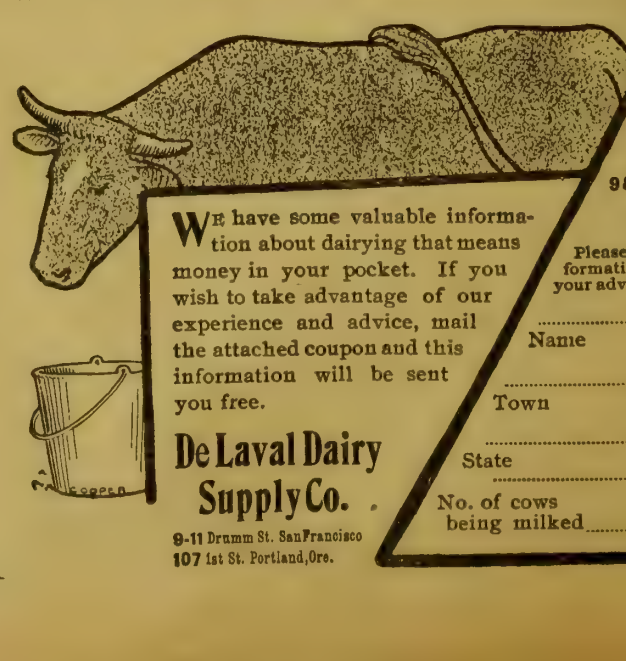

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Gold Medal Flock of Southdown Sheep. Bucks For Sale.

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California's Premium Herd of Shorthorns

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Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3: Idlewood, 6.2. Choice young stock for sale.

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If your druggist does not stock our vaccines, order direct from us, we pay all charges.

Fattening Heifer Calves

For years it has been the concensus of opinion, with the most studious dairy farmers, that it was not a wise thing to rear heifer calves in a fat condition. This judgment, on the whole, we believe to be a sound one. And, yet, there is a good deal of diverse judgment upon it. Dairymen do not agree as to matters of practice, any better than people in other professions. On page 226 of the issue of the Dairyman of April 8, Mr. Geo. F. Vincent, makes the statement that, "there is no danger of getting the dairy calf too fat. If it has good milking ancestors its chances are all right for a good dairy cow."

It seems to us in the light of some previous experiences that Mr. Vincent's statement is too sweeping. A number of years ago we had a fine, high grade Jersey cow. The first calf she brought us was a heifer. We reared this calf in what we thought sound practice, keeping her thrifty and growing, but not fat. The second calf was also a heifer. We concluded to make an experiment and feed this heifer fattening food from the start, till she was a year old. The third calf was also a heifer, and we reared her as we did the first. Now for the result. All three heifers were sired by first-class Jersey bulls, so there was no difficulty about "good milking ancestors." The first and third heifers proved to be valuable cows; the second one that we kept fat the first year of her life, proved to be absolutely worthless as a cow.

There is no doubt whatever that strong and decided dairy parentage will help very much to hold a heifer quite true to her purpose, in spite, even, of neglect or unwise rearing and handling, as well as feeding.

This inherited tendency toward decided dairy function is what we call "dairy temperament." That is what we are after where we select a bull of the longest and most decided dairy parentage possible. On the contrary, it is the beefy or flesh making tendency or temperament, that we try to avoid when we reject sires or mothers which show, by their build, that they possess such tendencies.

This is not to say that many cows of beefy form, do not possess strong milk giving power and capacity. But when we are breeding dairy cattle, the road lies straight before us, and our purpose is to endow each heifer and sire with as strong and potent dairy tendencies or temperament as we can. In the most decided of dairy breeds there occasionally crops out an animal that shows a decided leaning to the flesh making temperament. Is it wise then, by feeding, to encourage the growth of this latent, beefy tendency? On the contrary is not the better part of wisdom to both breed and feed for the enlargement of the dairy temperament and capacity in our cattle?

"One swallow does not make a summer." Our one experiment does not settle a principle, but we find in practice that we have now altogether too many cows in the country with a low, weak, dairy temperament. The other day an Elgin dairyman was complaining to us that about eight out of ten of the cows he bought were of such low dairy temperament that he could not crowd them toward milk making without their putting on flesh at once, and gradually drying up in milk.

Here is the line of division in temperament. The true dairyman wants cattle that can be pushed along toward milk-making, without branching off into flesh-making. To secure such cattle we must first use only bulls of the most pronounced dairy breeds. (2.) We must rear the heifer so her dairy temperament or tendency will not be spoiled by injudicious feeding and handling. That is the best dairyman who can best develop his heifers to be good cows.

(3.) All after treatment to the heifer either helps or hinders the performance of her inborn purpose. The wise dairyman studies out what this treatment is for the sake of his own profit.—Hoard's Dairyman.

It is a surprising fact, when one comes to think about it, that the Danish farmers can outclass us when it comes to supply the English market with butter. The Danes are farming on land which is worth $500 an acre, while we are beginning to complain of high prices when land values go up to $75 or $100 per acre. After all, would it not be well for us to draw a lesson from the success of the Danes and conclude that high priced land and the dairy industry go well together? One of the secrets of success of the Danish dairymen is the fact that they co-operate. These people are running co-operative creameries, co-operative establishments for selling eggs, and co-operative slaughter houses.

Mr. J. A. Campbell, of La Palma Herd, of registered Jerseys, has just sold to the California Polytechnic School a promising young heifer to go into the small foundation herd being established there by Director Leroy Anderson. This heifer, Pedro's Masseygold 179,357 A. J. C. C., is, as her name indicates, descendant from the world's sweepstakes bull Pedro, the world's sweepstakes cow Ida Marigold, Massey Polo 2nd, one of "Sweet's Big Four," and carries a cross of large sized and deep milking St. Lambert blood.

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

The Palm Glen Jersey Herd

Is being gathered from Island and Eastern breeders and as heifers freshen all will be offered. Imported Sultane's Golden Fern 65304, at head of herd.

A. B. WHITE - PALMS, CAL.

Advertising Column for Members

OF THE

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OF SOUTHERN CALIFORNIA

Organized for the general advancement of Jersey interests, to extend knowledge of their superior merits, for the mutual benefit of members, and to increase the profitableness of one of the State's greatest industries. Breeders are requested to unite with the Association.

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Registered Jersey Bulls, all ages, from heavy milking dams.

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PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

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Pacific Golden Lad

AT HEAD OF HERD. FINEST STRAINS OF REGISTERED JERSEY CATTLE.

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Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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FOR SALE

A handsome golden fawn yearling son of SIGNORA BRUCE NO, 154547

Official 7-day test, 250 lbs. milk, 12.28 lbs. fat, 14.45 lbs. butter at 3 years 10 months of age. For pedigree and particulars address

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Lemonita Herd

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Service bull "SARGENT BOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

J. A. CAMPBELL WE HAVE SOME GOOD ONES C. W. CAMPBELL

LA PALMA STOCK FARM

REGISTERED JERSEYS

One young bull for sale, ready for service; blood of Ida Marigold, sweepstakes over all breeds at Chicago World's Fair; Merry Maiden, sweepstakes all three tests same fair; Lily Garfield, champion 8-year-old in milk, same fair; grandson of Dot's Violet W, 1st prize Cal. State Fair; crossed with St. Lambert.

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Herd headed by the proved greatest sire ever in the State. Sired 10 winners at last State Fair. Nothing for sale.

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Stock received for breeding at fair rates. NO CHARGE UNLESS SUCCESSFULLY BRED. Correspondence solicited.

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ALSO

MELIA ANN'S LAD and a YOUNG TORMENTOR BULL

The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address

James Houston - Duarte, Cal.

AN EARLY FAIR.

We understand that the management of the Los Angeles Fair Association has decided to hold the fall fair this year at a much earlier date than heretofore. What reasons justify the change we have not learned, but it is stated that the meeting is scheduled for September, with the possibility of an eralier date. Under such circumstances it is urgent that intending exhibitors immediately begin active preparations.

We do not know what encouragement may be provided in the way of a live stock exhibit, but past events amply justify an interest in the amount of premiums and facilities allotted to this branch of an agricultural fair. The taxpayers of the State have in a multitude of instances demanded that the large sums annually spent on these so-called agricultural associations be diverted more to the State's betterment and less to the graft and trickery of the racing touts.

There are a few well organized and representative live stock organizations in the State that might most properly unite in an effort to bring about a better adjustment of affairs, and we suggest an early and determined move to have a better and larger live stock exhibit this year than has ever been held in the county before.

The Jersey Breeders' Associations, the California Swine Association, the poultry associations and several other energetic associations ought to unite for business and see what can be accomplished in all the agricultural districts of California. The fatherly interest of the State Live Stock Association might very properly be expected also.

Two years ago the management of the Orange county fair gave solid assistance to live stock interests, one association guaranteed sixty head of superior registered Jerseys and more than fulfilled its pledge, and produced the greatest exhibition of the breed ever held west of the Rocky mountains.

The general live stock interests represent dollars to the doughnuts of sports, and besides they produce millions for the State.—C. W. C.

NO DISTRICT FAIR.

Editor Cultivator:—There is little if any prospect of there being a district fair held in Los Angeles this fall. The old directors of the Fair Association have been for some time trying to prove that the State has no title to Agricultural Park, and the matter will have to be fought out in the courts; meanwhile there is not much chance of holding fairs. This is to be much regretted, for without doubt the Southern California Jersey Breeders' Association would like to avail itself of the opportunity to make a noteworthy exhibit of Jersey cattle. To make such an exhibit without the assistance of a strong District Fair Association is hardly practicable. Since the Jersey Association exhibited at the Santa Ana fair a year ago last fall, many fine Jerseys have been imported from the east and from the Island of Jersey, and it is a great pity that this stock can not be brought together in the show ring, as no doubt there are many who would like to see these importations but cannot spare the time to visit the various herds separately. The Santa Ana exhibit of Jerseys was certainly an eyeopener to the dairy public, but there can be no doubt that when the opportunity comes to exhibit stock again, our Southern California breeders will be able to show great progress all along the line. Very truly yours, C. W. Leffingwell, Jr.

A HINT AS TO MILKING.

"Milking should be classed with the fine arts. The udder and flank should be well brushed, then wipe off udder and teats with a damp sponge and milk at once. We at one time tried the experiment of going over the whole herd and cleansing the udder and teats, then in fifteen minutes milking them. In two weeks the flow of milk had decreased twenty per cent. So my advice is to milk immediately after cleansing the udder."

This is very sensible advice and it accords with the physiological law that manipulation of the udder will start the flow of milk. When once started, the milk should be drawn at once, or injury to the power of milk secretion will ensue.—Jersey Bulletin.

THE COW GOT THE WORST OF IT.

In one of Opie Read's stories, "The Arkansaw Planter," Old Gid, a decided character, tells of the difficulty he has in getting milk. The description is certainly unique and gives us a glimpse of the primitive cow. Here it is:

"You hear of cows giving milk. Mine don't. I gad, I have to grab her and take it away from her; and whenever you see milk in my house you may know it's the record of a fight, and the cow got the worst of it."

Some Californians still get theirs the same way, but fortunately they began to learn, years ago, that in that style of dairying the cow is ultimately not the one who gets the "worst of it."

HORSES IN THE UNITED STATES.

Good horses are always in demand despite the advent of the automobile, steam plow and traction engine. A horse is a paying investment under normal conditions, and is ready for work at a moment's notice, provided he is properly cared for. He has always been man's friend and companion and his popularity has not yet reached its zenith. Raise good horses, for a definite purpose, and you will be rewarded.—Exchange.

Castrating Lambs.—The earlier this is done the better it is in every way says a writer in Am. Sheep Breeder. It is easier to the shepherd, least painful to the subject, and the results safer. A lamb a week old may be so operated on that it feels only a slight inconvenience, scarcely to be called pain, judging by its actions. At that age a lamb may be taken up and held under the left arm with its rump in front of the operator, who by a swift cut with a pair of sharp, stout shears, separates the whole scrotum with its contents, and then immediately cuts off the tail at a joint if possible, but anyhow it matters little about that, as the bones are quite soft and almost as easily cut through as flesh is, and the nerves are as yet but little developed, so that there is only a slight pain felt; but the healing takes place more quickly if the tail is severed at a joint. This should be the third below the root of the tail, for the shorter the tail is left, so that there is sufficient of it remaining to protect the anus from the flies, the better it will be in the end.

To stop the slight bleeding the cut is covered with a pinch of an even mixture of finely powdered blue-stone or alum, and the skin, previously drawn up for the purpose, is returned to its place, and thus covers the end of the bone. The lamb is then released to its mother to whom it immediately returns and gets consolation by a drink of milk. That the lamb has not suffered seriously will be shown by the usual wiggling of the tail as the milk is swallowed.

Warbles.—Those big grubs found in the backs of cattle in the spring, and that inquiries about are frequently received, are known as warbles, and they irritate and pain the animal greatly as they reach maturity, and so make the animal unthrifty and poor, the extent of the damage they do. When nearly full grown they can be removed from the animals by squeezing them out with the fingers. Some men slash the tumors open, but it gives a great deal of pain and is unnecessary. They should be treated directly the tumors begin to appear by placing over the hole through which the grub breathes a small amount of sulphur and lard, in the proportion of one to three. This will prevent the insect from breathing, and it will die, dry up, and no great injury is done. If it is left long enough to be squeezed out the hole in the hide may never close up and its value is injured.

THE RIGHT WAY.

Milk with dry hands. That is a practice almost universally common, but in some places they don't do it.

From September 12 to September 24 is the time when dairy tests and beef tests will be carried on at the world's fair. If you are specially interested in cattle, that will be an opportune time to attend the fair.

Have you ever thought about purchasing a Babcock milk test? If not, why not? Don't you think it would pay to know more about the cows that are supposed to help pay for the various farm expenses? You can get an outfit for a few dollars and directions for running the machines come with them.

Do not keep a stallion too fat if a sure foal getter is desired.

Lazy pigs are the result of overfeeding and they do not enjoy good health.

Don't permit a large litter of pigs to suckle a small sized sow any longer than necessary, as it will tend to weaken the sow.

The Minnesota experiment station asserts that up to six and a-half months the bacon hog can be produced as cheaply as the lard hog.—Texas Farm and Ranch.

CLIMATE AND CROP REPORT

The weather and crop conditions for the week ending June 13 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco:

General Summary.—Warm, clear weather and northerly winds continued during the week in nearly all parts of the State. Light rain fell in some of the northern districts. Abnormally high temperature prevailed at the close of the week in the central and northern sections.

The grain crop has been further damaged by the drying winds, especially in the Sacramento valley, and the yield in all sections will doubtless fall considerably below early expectations. Grain harvest has commenced in a few places and will soon become general. Barley is yielding a fair crop, but it is expected that wheat and oats will be very light and much below last season's crop in some places. Hay making and baling are progressing rapidly; the hay is of excellent quality and the yield is large except in the south. Hops and corn have been injured to some extent by the dry winds, and it is reported that hops will fall below the avereage in Sonoma and Mendocino counties. Sugar beets and beans continue in fair condition. Pasturage is failing rapidly, but cattle are doing well. Potatoes and garden vegetables in some sections have been damaged by the dry winds.

Vineyards are in first-class condition in all parts of the State and the prospect is good for an unusually large yield of raisin and other grapes. The first carload of apricots left Winters on the 9th for Chicago. Early peaches, plums and cherries are being shipped in considerable quantities from Vacaville and Sacramento. Loganberries are yielding a heavy crop in Sonoma county. Citrus fruits continue in excellent condition.

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RED POLLED CATTLE
SHROPSHIRE AND
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Young Stock of Both Sexes For Sale
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DON'T PUT YOUR MONEY
INTO SEPARATORS THAT CANNOT PRODUCE THE BEST, THE THICKEST CREAM

All the large creameries of Minnesota, Iowa, Nebraska, and all the Dairy States **pay one cent per pound more** for cream that contains from 35 to 50 per cent. butter fat than they do for the cream testing less than 30 per cent. butter fat.

The cost for shipping cream testing 40 per cent. is only half as much as the cost of shipping cream that tests 20 per cent.

Thin cream retains more of the milk than rich cream, and as the milk becomes sour first the **thin cream is the hardest to keep sweet.**

By skimming a rich thick cream, you retain **all your skimmilk at home,** and you will find it valuable feed for young stock.

Many separators on the market cannot produce thick cream and are therefore unprofitable to buy.

The U. S. Separator makes thick cream and gets all the butter fat out of the milk,

Holds World's Record for Close Skimming

Write for catalogue

Vermont Farm Machine Co., Bellows Falls, Vt.

371

POULTRY FOR PROFIT

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

It is surprising to see the interest that is being taken in the poultry columns of the Cultivator. This is evident from the great number of letters asking for information about poultry that I receive, some send stamps and beg for an immediate answer, others say reply as soon as possible in the paper. If there is need of haste, such as sickness among the chickens, I answer by personal letter immediately, otherwise I reply in the columns of the paper. In this connection I would say the rule is that those wanting a reply must sign their name and address, not for publication, but as a guarantee of good faith, and letters cannot be answered without this.

Amongst the letters received this week are the following:

Editor Cultivator:—A friend in the poultry business and I each take your paper and we have made out a list of questions we would like answered. I enclose two feathers from the breast of Brown Leghorns. They are very handsome birds and four hens are among a flock left by a man who died some time ago. This man handled very fine stock at times, but none of the family know these birds' history. They all four have the same brand in foot. 1. Can you tell us about the strain or whatever it is, for they strike us as unusually choice? 2. If this is a different strain, would there be any way of telling the rooster? There are three of his roosters still in the flock, but the mate may have been sold. 3. Who, near here has the large strain, so we could get matings? 4. Do thoroughbred Brown Leghorn chicks sometimes have a few white feathers? They seem to be losing them as they mature, but I know of two broods that have white feathers, yet the parents are supposed to be the best bred. 5. Is roup hereditary? 6. What do you think about October-hatched chickens? Are they likely to get roup in this climate? 8. Has Egyptian corn the same food elements as the common corn? 9. I was told today that heavy bran is as good as corn meal to fatten chicks. Is it true? 10. What are double and single matings? 11. How many Leghorns can roost in a house sixteen feet long by four wide, and three and four and a half feet high, divided in two? 12. How is the best way to ventilate? In regard to ventilation there are two holes at the bottom large enough for hens to go in and out, and in one I have holes cut in each end of the peak. If there is a better way to ventilate I want to know it. 13. Would there be any objections to feeding a breeding pen Coulson's Egg Food once a day? I want strong chicks, even if I don't get so many eggs.—Two Poultry Women, Pomona, Cal.

1. I should need more than two pretty feathers to tell if your Leghorns are up to the standard or not. Still, if as you say, they are very handsome birds, and if the man who owned them had good stock, and had toe marked those four especially, I presume they were from extra fine stock. If you had mentioned his name I might have known something about his stock. The two feathers you send me might be from prize winners, they are so beautiful.

2. If there is any rooster with the same mark on his foot by all means mate him with the four hens. If not, choose the best of those three to mate with the hens or send away and get a good cockerel.

3. I do not know.

4. Thoroughbred Brown Leghorns very frequently have white feathers in their first feathers. These usually moult out so that the mature feathers are the right color. I would not breed from full grown hens that have white feathers, it is a defect. Sometimes in getting new blood in, white feathers come in, and it is difficult to breed them out; be very careful how you change the blood. If I were in your place I would not get in new blood unless your new purchase of Leghorns seem unhealthy.

5. Roup is not considered hereditary, but if the parents have had roup the young will be predisposed to it, and their constitutions will be weak. Never breed from a roupy bird. Breed only from your most vigorous, lively birds and your best layers.

6. October hatched chickens are all right. I always try to get cockerels hatched in October for breeding when they are fifteen months old. Pullets hatched in October will lay at five months and will make good breeders at fifteen months. Of course I am only speaking for this climate of Southern California.

7. No, not in this climate. Fowls that I have hatched in October and November have proved some of my very best layers. October and November, if we have early rains to start the grass, are good months here for hatching chickens.

8. Egyptian corn has very much the same elements as Indian corn, but is better for fowls because, the grains being smaller, cannot be eaten so quickly and seem to digest better.

9. Bran is too narrow a ration for fattening. You should add corn meal to it. The best mixture for fattening fowls is one part bran, 1 part corn meal, 1 part oatmeal (rolled oats), a little animal food and a little salt. Mixed with skim milk and fed three times a day.

10. Double mating is where two pens are kept, one for raising males, the other for females. This is done in Barred Plymouth Rocks as well as Brown Leghorns, in order to get prize winners by having certain exact coloring in the birds. Single mating is where the same pen is used for raising both males and females. It is considered more difficult to get prize winners by the single mating plan, but it is generally preferred. The standard requires the cockerels to be as dark as the pullets, they always come lighter in color, so to get them dark enough to match the pullets, the pen which is to hatch cockerels is made up of hens that are too dark and the pullets from this mating will be too dark, also, but the cockerels will be of the right shade.

11. About twenty-four, or, say ten hens and one cockerel in each division of the house; not more. To do this the house should be cleaned at least twice a week and should have two perches, running lengthwise of the house.

12. I consider the best way of ventilating (by far the best) is to ventilate at the bottom. Cut away the siding six inches of it off the bottom of the house on every side and cover this with wire netting so cats, etc., cannot get in. Have no openings nor cracks in the sides and top, but free air underneath on all sides. This will keep the air absolutely pure and fresh without draughts, and the smell from the droppings will be blown away, whilst the hens on the perches will be out of the draught. If you ventilate in this way

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TAKE NOTICE
When one gets ten to twelve dozens of eggs per day, as I have been getting for about two months past, it counts, but they all go. Just up with orders. Have sold nearly 7000 eggs for hatching purposes, 90% of them W. Minorcas; balance White Rocks and W. Wyandottes. Will continue to fill orders. If eggs from my stock are wanted write to
S. W. MORGAN, SUNNYSIDE, CAL.

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Standard Bred
Barred Plymouth Rocks (Ringlet Stn)
Light Brahmas (Felch Strain)
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Only Birds That Have
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are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
SANTA BARBARA, CAL.
Author of "A Practical Poultry Plant for Southern California," $1.25, on sale by Cultivator Publishing Co.

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IF RIGHTLY HANDLED
The best hatches come from stolen nest. The Natural Hen Incubator (patented) assures equally good results and is guaranteed to cost less money, time and trouble to operate than any other now in use. Hundreds of testimonials prove it. Needs only a few minutes' attention daily. 100-egg size costs about $3.50. Copyrighted plans $1. Plans of brooders, 20c and 50c.
A. A. Welch, Azusa, Los Angeles Co., Cal.

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202 S. Grand Ave., Los Angeles, Cal.
Mrs. F. T. Hungerford, breeder of high-class Black and White Minorcas, White Wyandottes and Indian Runner Ducks. Nothing for sale from July 1st until Sept. 1st. After that remember us for duck eggs and fine young cockerels.

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Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
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—LEGHORNS—
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The 1904 Catalogue B
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Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.
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Eggs of Ideal Strain. 15 Eggs, $1.00.
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Thoroughbred White Leghorn eggs, 75c per 15; $4.00 per 100. Buff Orpingtons, $1.00 per 15.
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READY FOR BUSINESS
Lice and Mites are always ready for business, and for ridding the roosts, houses and old fowls of these great life destroyers, you must use
Lee's Lice Killer
and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is
Devil's Dust with D. to L. Ointment
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White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at Late Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
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RANCH: 2½ Miles South of the University Station, on Vermont Ave.
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All Stock is Kept at Ranch Phone: Sunset, State 82

your hens will be free of colds and roup. The next best way is to take off the west side of the house and leave it open. You can cover it with wire netting. The reason for keeping the west side open, the night wind comes from the east, the rain from the southeast and an occasional storm from the north. Draughts are bad for fowls, especially small draughts, so keep all cracks and all openings, such as you have made, closed. The first plan is the best and you should commence with it immediately so the fowls will get accustomed to it before roupy weather, which will soon be here.

13. Coulson's food is excellent. You can feed it to a breeding pen once a day with good results. I have tried it myself. Feed for grain equal parts of wheat, cracked corn and rolled oats. The rolled breakfast oats are expensive but if you buy them by the sack of 80 lbs., it comes cheaper. I tried every way with oats, first boiling the common whole oats; this was a good deal of trouble and had to be fed in a trough; then I tried having the oats ground at the mill. I had to buy half a ton to get them ground, and they seemed three-fourths husk. I mixed this in the mash, but the hens did not seem to like it and although it cost only a little over half the price of rolled oats, it was not worth it, so I tried rolled oats; every bit of them is good, so there is no waste and the hens do excellently on them. Oats make large frame and give vigor. The breeders of the famous race horses always feed the brood mares oats to strengthen the offspring, and give the little colts oats at a very early age. By means of feeding oats and milk I had hens more than two pounds above the standard weight. You will have large sized Leghorns if you feed your breeding stock oats and your chicks also. Steel cut oats I found difficult to get, so I bought the best rolled oats. The second quality has rolled wheat mixed with it and I prefered to give my hens whole wheat and not pay extra for the rolled. It was oats I wanted, unadulterated; so, as soon as I discovered rolled wheat in the second quality I bought no more.

I am very glad to answer questions through the Cultivator, as by that means it may help many. I never give breeding stock any red pepper or condition powders because, although it stimulates egg production, the red pepper is apt to inflame the egg producing organs, and we want vigor and health, not inflammation, in breeders.

* * *

TURKEYS.

Editor Cultivator:—Will you please tell me as soon as convenient at what age turkeys "sport the red" and oblige —Mrs. W. J. C., Glendora.

Turkeys usually "sport the red" at about two months of age and have them (the red wattles) by three months. Some are slow in getting them, just as some babies are slow in teething, and I do not know the reason. I suppose it is either in the feeding or the breed. Whilst they are getting the red they require a little more animal food. Turkeys are much more delicate than chickens until they sport the red; after that they are much hardier than any other fowl. More little turkeys are killed by lice and overfeeding than by anything. "You are starving those poor little turkeys," said a member of my family four weeks ago, "poor little things, hear them peep!" "Don't you dare feed them," was my reply. "I know what I am about." The sixteen little turkeys are now a month old and doing well, with every prospect of maturing. "How much should I feed little turkeys, half a teaspoonful?" asks one correspondent. Feed them just what they will eat in five minutes, then take all the food away, leaving only water to drink, or milk. Keep the mother cooped, but let the little ones run in and out. I feed them three times a day. Curd (clabber milk scalded) is one of the very best foods for turkeys. I never feed corn until they have sported the red, as it sours on their stomachs and brings on bowel trouble. I have given full directions for feeding turkeys in the Cultivator of May 6th.

* * *

DUCKS.

Editor Cultivator:—Please give me some idea how to feed Indian Runner ducks.—C. C.

The feed for ducks given by Rankin, the great duck man, is two parts bran, one part corn meal, five per cent coarse sand. I find adding rolled oats to this is excellent. I also give them all the lettuce they will eat. The sand must never be omitted from their food—feed four times a day.

* * *

HATCHING CHICKS.

Editor Cultivator:—Do you consider it too late to start an incubator now? When would chicks hatched in July commence to lay?—Mrs. W. H. Y.

July hatched chicks in this climate would not lay before February. As a rule, July, August and September are not good months for hatching chickens. The chicks do not grow or develop as well. I think the reason for this is there is not any green grass in the summer here and the bugs, grubs and worms disappear in the heat and drouth, so that the little chicks do not do well. If you have an exceptionally shady place with running water and green grass they might do better. I have hatched chickens in every month of the year, but I found that it did not pay to hatch in July, August and September. Those hatched in October and November do well; in fact, they commence laying as soon as those hatched in August and there is two months less food and care.

The fact is that the supply of poultry and their products does not meet the demands of our home consumption; the disappearance of all kinds of game birds throughout the whole country adds to the local demand in all sections. This will grow continually, as will the population; the East cannot depend upon an overflow from the West to keep down prices, nor will prices in the West be so low in the future, a condition which adds to local values in all sections. Large dealers in our cities already complain of this, for in days gone by they could control prices by having continually in storage quantities of poultry and eggs that had come to them as surplus from distant localities. This will scarcely be repeated in the future, and while consumers must pay an advance for what they get, the grower will gain the greater advantage.—Country Gentleman, Albany, N. Y.

"Fifty miles an hour," yelled the chauffeur, "are you brave?"

"Yes, I am just full of grit," replied the pretty girl, as she swallowed another pint of dust.

Trade Mark for West Coast Chick Feed.

The above cut is no fancy sketch but is made from a photograph taken of birds that have been, and are being fed on West Coast Stock Food Co.'s goods. The large bird took first prize at Los Angeles Show, December, 1903. His sire took first at Los Angeles Show, 1901, as cock, and first at Pasadena Show, 1900, as cockerel. They have all been raised on West Coast Stock Food Co.'s foods.

FEED WEST COAST CHICK FEED

And raise prize winners. West Coast Chick Feed makes it possible to successfully raise little chicks, turkeys and ducks. They like it. It keeps them healthy. Prevent disease and promote health and growth by feeding West Coast Chick Feed. It is all feed, no waste; cheap in price; best in quality.

WEST COAST
Stock Food
Poultry Tonic
Egg Food
Chick Food
Lice Killer
and
Kilamite

They are guaranteed to be as represented. Do not be deceived into using any other kind. All are made only by

THE WEST COAST STOCK FOOD CO.
PASADENA, CALIFORNIA
Call for and demand West Coast Stock Food Company's goods.

There May be Other Chick Feeds, but People Do Not Want Them

I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.

The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.

Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.

GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

SAVE US FROM THE CROWLESS ROOSTERS.

Wonderful results are obtained in live stock breeding by enforcing artificially the great laws discovered by Darwin of "natural and sexual selection." The pouter pigeon was obtained by selecting pairs showing abnormal crops, which, by constant selecting of freaks in this line, gradually increased the deformity into a permanent type. The fantail pigeon was similarly obtained, the first specimen having only one odd feather, next two, and so on to the wonderful wheel-like tails we see at pigeon shows. All the beautiful domestic animals we have were obtained by similar methods, that is, by assisting the natural law of evolution by enforced selection, change of environment, food and climate and elimination of the imperfect or unsatisfactory.

There were no "thoroughbred" horses and cattle originally. The first horse was little bigger than a fox, and had five toes, which it dropped by degrees under the process of natural selection, clearly explained by the scientists. The fine horse we now see represents thousands of years of careful breeding, rigid selection and exclusion. The same remarks essentially may be applied to all the breeds of cattle. The magnificent shorthorns are comparatively recent, the ancestors being the wild cattle of Asia and Europe. It has been found that the horns may be bred off, in addition to other marvelous changes wrought by the skill of man assisting nature. All the fine dogs started from a snarling wolf, running wild and snapping at everything coming along. Man is no exception to the rule. If he goes back far enough he will run against an ancestor that will not evoke any pride of pedigree. If the same principles of enforced selection and elimination had been applied to him as to the other animals we would doubtless now have a far superior race. Perhaps his love of war, fondness for fighting and other lingering and barbarous traits might have been bred out of him, just as the horns are bred off of hooking cattle.

But the crowning achievement in breeding remains to be announced. Some genius is said to have accomplished the triumph of producing a crowless rooster. How he did it is not as yet explained, but if true it suggests wonderful possibilities. If chanticleer's crow can be eliminated, may not the mule's "weehaw" and the jackass' strident staccato be amputated by process somewhat similar? May we not yet see a guinea without its discordant cackle, a pig with the squeal extracted and other nuisances of the barnyard softened or abated? But as to the rooster, we are not sure that we greet with pleasure or pain the news that his laryngal arrangements and vocal chords are to be so changed that he will be unable to emit his familiar cry. How is morn to be ushered in without the crowing of the cock? What are the poets to do if no longer allowed to allude to the "clarion note" of chanticleer as he greets the rising sun? To deprive the rooster of his crow is to hopelessly disarrange things. Important parts of history would have to be rewritten if there were always crowless roosters. The Romeo and Juliet love scene would be badly spoiled if you take out the allusion to the unwelcome announcement of the coming morn by the restless roosters of Verona. One of the finest passages in the New Testament would be sadly marred if the story of Peter's denial is told without the dramatic elements of the cock crowing. Altogether we are inclined to file a protest against any further extension of the discovery reported by the ingenious Western fancier. Improve the breeds all you want to, increase or diminish size, put on or off feathers, stimulate egg production, but leave the rooster his crow. Don't make a tame, demure, unsexed creature of him, unable longer to send forth his defy or his note of triumph. The very hens will lose respect for the rooster if he be deprived of his most distinctive characteristic. It is true that his crow may prove a disturber to farmers desirous of sleeping late, and a distinct nuisance to nervous neighbors in cities that have come home in the early hours of the morning for a nap. But country environments would be irreparably injured and barnyards would not be barnyards without "the rooster's hallelujah as he tiptoes on the fence." —American Farmer.

THE DOUGLAS MIXTURE.

The Douglas mixture is not a patent medicine or prepared article sold at drug stores or by poultry supply dealers. It is a preparation of home origin and costs but a few pennies. No one who keeps fowls should be without it, as it is splendid to use for growing chicks and fowls that are passing through the moult. It is especially beneficial at times when contagion is in the flock or neighborhood. It is not a cure for disease, but rather a preventive, as it tones up the system, keeps it in condition to ward off disease. The Douglas mixture should always be used when cholera and roup are raging. No matter in what form roup comes it spreads through the drinking water, and by using water containing the mixture and no other the disease can be held in check.

To make one gallon of Douglas mixture dissolve one-half pound of common copperas in a few quarts of soft water, then add one-half ounce of sulphuric acid. Mix thoroughly, bottle and cork tightly for use. Dose, one tablespoonful to one quart of drinking water. Give no other water to drink when it is used. It should be given but three days weekly, unless contagious disease is present.

High prices for poultry products have brought thousands of dollars to many, and thousands of complaints from as many more, who wonder why hens won't lay for them in winter. No one is to blame but the owner.

"Got any oysters?" asked the guest in a restaurant. 'No, sah," replied the sable waiter; "ain't got no shellfish, 'cept eggs, sah."

"A Practical Poultry Plant"

BY E. PRYCE MITCHELL.

Is a good book, well worth the subscription price. Every person handling chickens will get valuable pointers by reading this book, which tells in a short, concise, practical manner the best method of raising and marketing chickens and eggs. Sent postpaid to any address for $1.25.

CULTIVATOR PUBLISHING CO., 203 New High St., Los Angeles.

HATCH IN SEASON—NOW
Selected Eggs, Guaranteed First-Class, $1.50 per Setting of 13
S. C. BLACK MINORCAS
BARRED ROCKS
S. C. BROWN LEGHORNS
1½ Miles East of Glendale
Eleanore Poultry Ranch
P. O. Address, Garvanza
Incubator Chicks Hatched to Order

NO MORE LICE
after using
PRUSSIAN LICE KILLER

NO SICK CHICKS
when you feed
CHAMBERLAIN'S CHICK FEED

PLENTY OF EGGS
by feeding
DARLING'S BEEF SCRAPS

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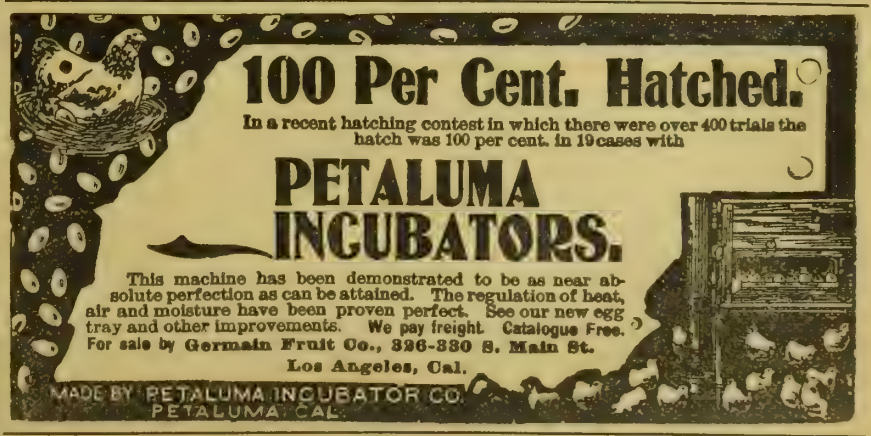
GERMAIN SEED CO. 326-330 S. MAIN ST. LOS ANGELES

AMERICAN WHITE PLYMOUTH ROCK CLUB * MEMBER *
Winning White Plymouth Rocks
Three silver cups and 24 prizes Eggs, $2 for thirteen
Indian Runner Ducks
Imported from Australia. Immune from roup; the fowls for California. Eggs, $2.50 for 11; $4.50 for 22. Yards closed Sundays. Have plenty of strong, fertile eggs to fill all orders
T. FRANK ANDERSON, HOLLYWOOD, CAL.
SUCCESSOR TO MRS. A. BASLEY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In a recent hatching contest in which there were over 400 trials the hatch was 100 per cent. in 19 cases with
PETALUMA INCUBATORS.
This machine has been demonstrated to be as near absolute perfection as can be attained. The regulation of heat, air and moisture have been proven perfect. See our new egg tray and other improvements. We pay freight. Catalogue Free.
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PETALUMA, CAL.

Emery's Pure Meat Meal
Don't believe all we say, but just enough to buy our Poultry Foods
Ask your nearest dealer for them and take no imitations.
Emery's "B. B. & B."
N. OHLANDT & CO., Indiana and 24th Sts. San Francisco, Cal.

SAVE THE CHICKS
Peerless Chick Feed is the best balanced ration of pure, clean seeds, grains, meat meal, charcoal and grit known to the poultry breeders. The benefit derived by its use is marvelous, and is endorsed by all who have tried it. Prices: 100-lb. bag, $4.00; 50-lb. bag, $2.00; 24-lb. bag, $1.00; 5-lb. package, 25c.
HENRY ALBERS, 31 S. Main St., Los Angeles

Coulson's Balanced Ration Egg Food

An Egg and Feather Producing Food Prepared to Feed to Adult Fowls

A Balanced Ration for Laying Hens

Knowledge is Power

Exterior View of the A. R. Coulson Co., where Balanced Rations for Poultry Are Prepared, Carloads after Carloads.

A Flock of Beauties Fed on Coulson's Foods.

The better you can understand what makes hens lay the more money you can make out of your hens. Ask the average poultryman why a hen lays, and nine out of ten times he cannot tell you.

Some people think that a hen lays so many eggs every year, no matter what you feed them. If that be the case then why not feed them sawdust and hay?

You may scoff at this, but there are many poultrymen feeding their hens cheap mixed feed, composed chiefly of ground oat hulls and ground corn cobs and ground rice husks.

Then there are a large number of poultrymen who feed only wheat, corn, and barley, giving the hens too much carbo-hydrates and not enough protein. The result is that the hens gradually become fat and soon they will become broody and will want to set. While the young hens may manage to lay some, because by extra exertion they may be able to transform some of carbo-hydrates or take the substance called protein from their own bodies, gradually they will become fat and be poor layers.

But if they were fed on the right kind of egg-producing food how much better all the hens would do. Why, they would lay two or three times as many eggs.

Some people think that a hen has so many eggs and will lay them in time, but half of the eggs never develop because the hens do not always have the proper food.

If you will feed Coulson's Egg Food, you will get twice as many eggs and make twice as much money out of your hens.

Some people think that the fowls can get plenty of bugs in the summer so that they don't need any meat or egg food, but the amount is not near so much as they ought to have.

Coulson's Egg Food is a lean and narrow ration and you can feed more, as it is an exclusive egg producing food and not fat producing.

Start in now and make the hens lay abundantly for the next three or four months and have the hens moult in July.

Feed Coulson's Egg Food every day this year and you will have good luck and plenty of eggs.

Coulson's Egg Food gives the hens rich blood, nice glossy plumage and makes the eggs come.

CONTROL YOUR HENS.

To make hens pay you must make hens lay.

An egg that measures 6¼ inches by 7½ inches was laid by a hen fed on Coulson's Egg Food.

Coulson's Egg Food makes hens lay because it contains all the most egg-producing articles known to science today.

There is no excuse for any one nowadays not being able to make the hens lay abundantly. Of course, a hen cannot make eggs out of nothing. The richer and better egg-producing food one can give the hens, the more they will lay. There are some certain articles necessary to make hens lay that mose people neglect to give them.

Coulson's Balanced Ration Egg Food contains the right kind of rich meals that a hen can easily digest and turn into eggs. One man feeds $2.15 worth of this food every day and gets back nearly 700 eggs from the hens. This is proof that you can feed Coulson's Egg Food and make a profit from your hens. Testimonials coming in every day. Trade increasing every day.

Come in nad let us show you all of the good rich meals that make this food. It takes sixteen different articles and each must be a certain proportion. We prepare this food so that it is already mixed ready to feed as the morning mash, and we sell it to you at factory prices, giving you a good chance to make some money out of your hens, for if you will feed this according to directions you will certainly get plenty of eggs every day.

MAKE MONEY

This year out of your hens. Feed the hens on the very best egg-producing food and make them lay lots of eggs.

Feed them once every day a warm mash of Coulson's Balanced Ration Egg Food and you will make money out of your hens.

Why? Because Coulson's Egg Food is rich food and makes rich blood, healthy hens and good layers.

Coulson's Egg Food puts into the hen the kind of material that the hen puts into eggs, so that a hen fed on Coulson's Egg Food can lay every day and not get run down. When your hens are laying good they need good rich food to keep them up.

If you feed your hens a meal a day of Coulson's Egg Food you will have healthy hens and plenty of eggs, and will make more money of of the poultry this year.

Price of food, 1 sack, $1.65.

These are Petaluma prices. The price in other towns will be more, according to the freight. In Santa Rosa, Sebastopol, Tomales and surrounding towns the price will be 10 cents a sack higher.

If your feed dealer hasn't got it, send your order to

200 STORES IN CALIFORNIA SELLING THIS FEED

THE A. R. COULSON CO.

MANUFACTURERS OF POULTRY REMEDIES, CONDITION POWDERS, POULTRY FOODS, ROUP CURE, LICE KILLER, ETC.
WHOLESALE AND RETAIL

PETALUMA - CALIFORNIA

Conducted by Prof. A. J. Cook, Claremont, Cal

FUMIGATION FOR SCALE.

In his Agriculture Notes in the Magazine part of Sunday's Times, Commissioner Jeffrey says some very important things regarding fumigation. He is referring to the fumigation of the county farm orchards, and speaks of the large amount of cyanide used, and the large cost of the work. He then states that the orchard has gone two years without fumigation, and he believes that it will go two years longer before it needs another fumigation.

I believe that this is very wise in suggestion. Mr. Pease has had success with fumigation for black scale, and if his course should be followed by all, fumigation would be very satisfactory, in case there is an even hatch of the black scale, and needs not to be repeated oftener than once in four years. In case of the black scale it may pay if all hatch at nearly the same time, as they did hereabouts last year and bid fair to do this season, and there are no red mites (spiders) to contend against; then let him insist that a large enough dosage be used to kill the young growth near the tips of the twigs, and yet that no real injury be done the trees or fruit. The slight burning of the tender leaves and twigs does no essential harm. Commissioner Pease has the work in the best shape so far as I have observed. All the work is done under the charge of the inspectors. He gets them all together, before the work begins and asks them how much cyanide each would use on some tree. Each gives an estimate and then he shows who is wrong and how far wrong. Thus they spend hours, until they are all able to estimate well. When work commences, he is still able to test their skill, as the slightly burned twigs will reveal the fact that enough of the poison has been used. Mr. Pease says that when the black scales hatch uniformly, one good fumigation ought to do for four years.

* * *

UMBRELLA TREE, COW AND COMFORT.

If you wish to get the most from the cow, we must let her have a good yard, and spare no pains to make her comfortable. Have we not seen how the cows in the east gather under the shade of protecting trees in the hot middays of summer? I wish to urge that we consult both comfort and economy, by planting a good umbrella tree just south of the corral, where our cow is kept. This grows quickly, furnishes very dense shade, and is very beautiful, at all times and peculiarly so as the leaves color in the fall. It also drops its leaves in winter, and lets in the sun when that is grateful to boss. The umbrella tree and the fly blanket will pay a big margin in profit, besides adding materially to the comfort of the cow.

* * *

LEMON ROT.

Mr. H. M. Praed, of the San Jacinto Land Co., sends me a lemon with "a new kind of rot" as he says. He asks if it has anything of interest connected with it. It is the common blue or black fungus. Miss Wimpress, a good student of fungi and insects, is now studying in my laboratory. She is working with this fungus and has carefully drawn the spores and the insidious mycelial threads, as they wind among the cells and take their substance. I gave her the lemon and as I supposed she would do, she found only the blue fungus. I was pleased with Dr. Woodbridge's advice to plow under the culls. It would be wise, not only from a manurial standpoint, but in view of the dissemination of this fungus. This year a great many oranges have been dumped in waste places, and are now sending their billions of spores over the whole region. We might as well try to stay the spread of thistles, with the winged seeds flying everywhere through the air, as to stay rot, and sow the germs widespread as we are doing so extensively this year. I wish we had a good club in every neighborhood, and that each one would try to correct this waste and this more serious menace at the same time. Bruised fruit means rot, a very little bruise is enough, and the presence of the spores does the rest. We are doing much to sow the spores, and too often are none too careful to prevent the bruise.

* * *

PICKLED BROOD.

Deputy Foul Brood Inspector C. E. Stevens, San Diego Co., sends me more pickled brood and asks for my decision. This year there will be much dead brood and bees if feeding is not resorted to at once. Just yesterday I examined bees, that are almost destitue of stores, and the brood is dying. Bee keepers must feed at once or the loss will be alarming.

* * *

ALFALFA AND BEES.

Mr. Mendelsohn one of the best bee keepers of Ventura county, finds it wise and profitable to move his bees down to the bean fields, as the sage honey flow ceases. Why can not our bee keepers go to the alfalfa and reap a similar advantage. Alfalfa will always give the nectar, except cold winds prevent, and that is not likely to happen very often. I believe this might be a very wise thing to do these off years and the gain would be a clear one.

* * *

THE BLACK MELON APHIS.

Yesterday, I saw a glad sight. It was no other than a melon twig with hundreds of parasitized plant lice or aphids. W. J. Hutchinson of Coachella writes me that they are again suffering from these aphids. Glendora and Glendale have the Braconids. I have now shown how the Coachella people can get relief. They have only to get the parasitized aphids from the plants at Glendora, and place them in their fields. These Braconids not only work for nothing and board themselves, but they work with a surprising vigor. Let us give them a chance to do us all possible good.

FUNGUS ON APPLE.

Wm. C. Preston, Eureka, sends apple twigs and leaves, that are attacked with fungus. He is in a damp section very favorable to fungus growth. I should examine to see the trees were healthy. This fungus seldom attacks healthy trees, even in damp regions, I think. The thing to do is to study to grow only healthy trees and then the fungus will not likely do harm. Sulphur is the cure, but it must be applied before the fungus come.

* * *

APPLE BLIGHT.

John Frazer, Toluca, seems to have twig blight in his apple trees. We must see the twigs to enable us to give an opinion. I hope our readers will always send samples of injury with their inquiries.

SCALE OF POINTS FOR STRAWBERRIES.

The following scale of points is in use for strawberries, and will be of interest to those who are trying new varieties. A systematic method of making valuations is of immense advantage for proper comparisons:

Character.	Scale of Points.
Rootage	5
Stock and foliage	5
Vitality, drouth proof	7
Plant maker	10
Healthfulness, rust proof	5
Blossom, Staminate, Pistilate	5
Productiveness	25
Size	10
Shape	5
Color	5
Flavor	8
Firmness, shipping quality	10
Total	100

SUPPLEMENTARY SCORE.

Length of nodes	10
Earliness of bloom	10
Earliness of ripening	10
Duration of picking season	10
Full size of berries to end of season	10

—American Gardening.

TOMATO PLANTS DYING.

This has been a very common complaint this year, the cause generally being a fungus blight. The tomato, like the melon, requires new land, but does not take kindly to manure or to surface irrigation. Let the ground be moist and warm before planting, and well stirred afterwards as long as a cultivator can be used between the plants, or, of a few vines in the home garden, then use the fork hoe daily.

Do not in-breed, but get new seed every season from a reliable firm. Often the best results are had by using European-grown seeds in California, and California-grown seeds in Europe.

European seedsmen use the greatest care and skill in the growing and selecting of seeds. Do not overcrowd; give the plants plenty of room. As auxiliary to all this, spray the plants several times with sulphate of iron in solution, five pounds to forty gallons of soft water. This is a tonic and stimulent. The copper solutions, used as a fungicide, have not done much good.—Sacramento Union.

WORMS AS SOIL RENOVATORS.

Earthworms are not soil formers, for they are seldom met with in soils that are destitute of organic matter. They are simply renovators. Every time a worm is driven by dry weather or any other cause to descend deep, it brings to the surface, when it empties the contents of its body, a few particles of fresh earth. At the same time it fertilizes the subsoil by opening up passages which encourage the roots of plants to penetrate deeper, these passages being lined with excerted matter which provides a store of nourishment for the roots. On meadow land Darwin found that these worm casts amount annually to eighteen tons an acre, and on good arable land to about ten tons.—Sel.

J. E. Peterson, Waddington, Humboldt Co., says: Are there any agricultural schools in California? where situated? and what studies do they have?

There is a new school just started in this State at San Luis Obispo, the California Polytechnic school, under direction of Prof. Leroy Anderson, which is said to be the foundation for a most excellent school. Agriculture and manual training are to be the special features of this school.

This school receives students who are recommended from the grammar schools, but it does not prepare its students for entrance to the university. Its course of study is arranged solely in view of the needs of the boy and girl who are going to earn a livlihood after completing its course. It does not seek to prepare them to enter a higher institution of learning, but its aim is to prepare them for an active industrial life.

For higher education there is, of course, the State University at Berkeley. It has a strong agricultural department, with a force of instructors which has a reputation which reaches not only over this country, but in Europe. A postal card to either one of these institutions will bring full instructions as to the courses, the facilities, etc. Both being State institutions there is no tuition from residents of the State. Address California Polytechnic School, San Luis Obispo, and State University, Berkeley.

Casey—Whin Oi've hod enough, Oi stohp drinkin'.

Hartigan—Phwat strange things a mon will do whin he's droonk!

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Potash

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POLLARD BROS.
Alhambra, Cal.

THE ENGLISH LANGUAGE.

We'll begin with a box and the plural is boxes,
But the plural of ox should be oxen, not oxes;
Then one fowl is goose, but two are called geese,
Yet the plural of mouse should never be meese;
You may find a lone mouse or a whole nest of mice,
But the plural of house is houses, not hice;
If the plural of man is always called men,
Why shouldn't the plural of pan be called pen?
The cow in the plural may be cows or kine,
And the plural of vow is vows, never vine;
If I speak of a foot and you show me your feet,
And I give you a boot, would a pair be called beet?
If one is a tooth and a whole set are teeth,
Why shouldn't the plural of booth be called beeth?
If the singular's this, and the plural's these,
Should the plural of kiss be nick-named keese?
Then one would be that and three would be those,
Yet hat in the plural would never be hose,
And the plural of cat is cats, not cose;
We speak of a brother and also of brethren,
But though we say mother, we never say methren;
Then masculine pronouns are he, his and him,
But imagine the feminine—she, shis and shim;
So the English, I think you all will agree
Is the 'dod rottest' language you ever did see.—Cheyenne Sun Leader.

Sturdy Sons of the Soil

(By Anthony Collett.)

"Seein' as how the times be main bad for farmin', Mr. Longcroft—"

"Aye," said John Longcroft, grimly, with his hands on the crook of his stick.

"Main bad and difficult they be, and what with labor so scarce of late and all—"

"Aye?" said the old man again, gazing straight at the barrows on the down above.

"Well, I looked at this way: My client being a liberal gentleman, uncommon liberal he be, and main set on this 'here notion, 'ee might be disposed to come half way to meet him like, and be all the better for it, eh?"

"What do he want then? I ain't heard tell o' that yet," the old man said, with a look in his eye that seemed to say he could make a pretty fair guess.

"Well, he be lookin' out for a nice bit of property, 'ee do see, some sweet, pretty spot, he says, fine dry soil and all, and—well, there, Mr. Longcroft, I thought as how you might be willin' to sell him Whitelands."

The house agent mopped his face nervously and watched his friend out of the corner of his eye. The old man slowly turned and faced him.

"I know thee nigh forty years, Dan'l Pigg, and I never looked for thee to come to me and talk to me like that. Hark here. I were born at Whitelands and my father and his father, and many more before they, as thou dost know well enough; and I could just as soon sell Whitelands as sell they dead men in their graves on the down."

He pointed his stick at the crest of the great chalk hill above them, where the nine barrows stood dark against the fading October sky. A long stream of rooks were passing high above, and their far-off cawing came clearly through the stillness.

"Well, well, Mr. Longcroft," said Daniel Pigg at last, "I didn't think 'eed do it, that's sure. But we have our duties to one another like, so I sorter dropped along here to make certain o' what I should say."

"Now 'ee know right enough, and that's the end on it," said John Longcroft. "Well, here be Mary and the missus come out to ask 'ee in to supper, Dan'l. Will 'ee stop and have a bit? There'll be a nice moon up in an hour's time for 'ee going across the moor."

But Daniel Pigg preferred for once to get clear of Whitelands without further delay. He shambled into his tax cart with a dim sensation of escaping from the neighborhood of a volcano, in lively promise of eruption, a volcano, too, for which he himself seemed in some odd way to be personally responsible. He would hardly have expected that John Longcroft would take his proposal altogether kindly. Still, as his old mare jolted down in the twilight between the glimmering hills of the white chalky fallows, he felt that circumstances had treated him rather unfairly. Half the country knew well enough that John Longcroft, of Whitelands, like most of the farmers, was in a main poor way of late. And when in his own line of business he had had the opportunity of putting him in the way of selling his freehold at a price much above its present market value it seemed a little queer that he should finish the interview feeling less like a most substantial property agent in Borden Town than a tramp caught firing ricks.

As a rule, Daniel enjoyed nothing better than a gossip at meal times on his visits to Whitelands farm, and his early disappearance and general air of perturbation did not fail to put Mary Longcroft on the scent of trouble, when coupled with the air of taciturn displeasure which her father kept up so for the rest of the evening. And of late all trouble had come to be bound up so closely for Mary in the ever-present fear of family ruin that it was not very hard for her to guess the errand on which Daniel Pigg had come. Her mother was a woman worn out before her time, and, though Mary was barely twenty, for several years past the management of the household had fallen naturally into her strong hands. She was a true daughter of the southern downs, with the blue Saxon eyes and yellow hair that were handed down from generation to generation among the Longcrofts of Whitelands, and a girl, too, of as cheerful a disposition when things were going passably well as any you could find in the country. But the unspoken fear of being forced to sell their land, which of late had hung over herself and her father alike, meant even more, perhaps, to Mary than to the old man, though every clod on the Whitelands farm was as dear to him as his own flesh and blood. For the threatened disaster meant to Mary a parting not only from Whitelands, but from her sweetheart as well.

The two were standing next morning among the sunlit autumn beeches, where a great stretch of woodland ended sheer like a wall on the lip of the down above the narrow valley, which held the farm and overlooked the far levels of the vale toward Burndon all wrapped in a faint October haze. Three years ago Tom Haygarth had come as keeper to the cottage that lay far in the woods among its pheasant coops and kennels, and long before now he had earned a right to share in all the anxieties that were thickening round the daughter of the Whitelands farm. Often at these meetings all the trouble was forgotten, but on this beautiful autumn morning the black retriever, which was Tom's regular companion, very soon became aware that things were going wrong again with his master and mistress, and that the occasion called for the profoundest melancholy of demeanor.

"Well, lass," said Tom Haygarth, since Mr. Longcroft would have now! to say to 'um, what's there to worry about? 'T would be a sight different of he'd closed with 'um, it seems to me."

"Ah! but, Tom, father do feel it so dreadful that anyone should think of it at all, that's where it is. He hasn't never said nothing of it right from the beginning, but I do know just how it takes him. And I be so afeard as it'll be only a little while more afore we can't help ourselves at all, and be forced to go. And then I mayn't never see thee again."

"Ah, won't thee, lass," said Tom. "I have shifted my billet more than once for a sight less reason than that, and I count I can do it again. Don't fear for that."

"I didn't, Tom, not really," said Mary, smiling a moment through her tears, so that the retriever wagged his tail in encouraging appreciation. "But I be so miserable for father for I know 't would nigh kill him. I think sometimes he be half heart-broken always, because of Philip, you know."

"Aye, aye," nodded Tom, gravely. "I know." For the story of how John Longcroft fifteen years ago had driven from home his only son, a boy of sixteen, and had never set eyes on him again, had passed into the most popular legendary tragedy of the countryside.

"That were all because he were so set on Whitelands, too, you see, Tom. He thought there were no such place anywhere, just like he now do, and when Philip took to fretting and asked to be let go and see more of the world it angered him. And Philip were hasty like he, so father told him to go and see it, and never set foot on Whitelands no more, since he thought so little of it. Mother do often talk about it and fall to crying, but father feels it most, I am sure, though you might think he'd forgotten clean all about it ever since I were born, and longer."

The old retriever turned sad eyes of mystification from one downcast face to the other. Mary stroked his glossy head and brushed the falling leaves from his thick black coat. A pheasant called suddenly beside the cover, and a gray flight of wood pigeons came down over the long line of down, where the sunlight bathed the slopes of the nine great tumuli in its yellow light.

"Well, lass," said Tom Haygarth, at last, "I reckon 't will all come right if we put a stiff face on it. But if so be as we be forced to shift then why not us all go up to the north, where I do come from? It is a different country from all this here, and I reckon Mr. Longcroft mightn't feel so much of the change where folks hadn't known him all along. However, we needn't think of that for a long time yet, lass. Keep thy heart up, and I'll swear there's good luck on the road for us."

So Mary went back to Whitelands and played her part bravely in house and poultry yards, while John Longcroft bent his back week by week on the plow lands with a dogged energy that put his laborers to shame. But the lean years still continued. When the autumn rains should have fallen to replenish the deep chalk springs the golden weather still held unbroken, turning day by day the crests of the great elms ranged beside the farm to deeper tones of orange and amber fire. Then soon after New Year's came the weeks of fierce sleet-laden northeasters, so that the lambing season, which means so much to the downlands farmer, was one of the most disastrous for years past. The losses in the lambing fold, that not all the care of the old man and his shepherd could prevent, just about destroyed John Longcroft's last chance of weathering the storm. He held on through the spring and the summer, and saw the bare hillsides where the young corn was shooting bleach away from the emerald of the sprouting blades and the light roan of rain-washed chalky loam to a parched calcareous whiteness that threatened drought to come. And old John Longcroft worked himself like ten men in place of the laborers whom he could scarcely have paid even if he could have found them, he turned dizzy one day in the wagon and was carried in to Mary and her frightened mother with a broken arm.

So it came to pass that, although the old man never gave word or sign, he showed no anger or surprise when one September day soon after he was feebly on his legs again the straggling reddish whiskers of Daniel Pigg appeared once more at Whitelands gate on a hint conveyed from poor Mary during a visit from Tom Haygarth's to Burndon. Although Daniel had been privately primed by Mary with encouraging assurances before he made his public entry up the farm roadway, he approached the old man and his subject with considerable misgiving. His anxiety, unfortunately, found outward expression in such vigorous flappings of his red handkerchief and nervous scrapings and shuggings of the shoulders as gave him an appearance bordering on the demented, and the interview began by the old man sharply inquiring of Daniel if he thought his house were built as an asylum for the afflicted. This was hardly an encouraging start and it was, after all, the old man who came to the point first.

"Daniel," he said, "is e'er a one as be asking after Whitelands these times, I wonder? I mind you speakin' of some one as came to you about it twelvemonth ago."

"Oh, ah," said Daniel with elaborate indifference, "I've had inquiries. But, o' course I told 'em how you said as you'd never think o' selling' it."

The silence of the autumn sunshine closed round them, while Daniel Pigg affected an absorbing interest in the desultory progress of a black sow up in the rick yard.

"Daniel," said John Longcroft, in a level voice, "I've changed my mind. I be goin' to part with Whitelands. So, thinkin' you might care for the job of arrangin' the sale like, I reckoned I'd speak about it to you."

Despite his efforts, Daniel Pigg looked quickly around at him, but the old man's face repelled his glance and forbade the slightest expression of surprise.

"Aye, Mr. Longcroft," he said, in a tone he tried to bring to ordinary office pitch, "I've had inquiries from a likely client—in fact, two likely clients." The

phrase gave him confidence, and he checked himself with a jerk in the act of pulling out the fatal handkerchief. "First and fore, there be a gentleman as I told 'ee—that's to say, as applied to me twelvemonth ago. And there was another just last week. Now, you would naturally like to receive information as to the natur of their offers, in which circumstances—"

"Now, stop there, Daniel," said John Longcroft. "If one or tother of these here clients o' yours were to get the place, what do they want it for? Do you know aught o' that?"

"Aye, aye," said Daniel communicatively, "the first gentleman as inquired be anxious to find a nice bit o' property to turn into a country residence for himself and family—something pretty fairish, I do tell 'ee, with a good bit of park to it and all. And, lor, there, where could us find a sweeter spot for a seat like than Whitelands, as I always said were the sweetest spot in forty miles of country? Pull down the farm here, build a noo mansion up there, just under the barrows—"

He saw the old man's eye strike fire, and realized that this enthusiasm for the development of the property had better have been suppressed.

"Aye, aye," he went on, "that's all as might be. But as for the other un as applied, he didn't say much, but he didn't seem to think of improve—alterations like, not to speak of."

Once more the handkerchief twitched half way out of the pocket, and was rammed home again. The old man gazed steadily at the far side of the valley, where the black junipers dotted the hill. The chances of the future were burning into his heart.

"I'd sooner sell to the second un," he said, at last. "We can't foresee what'll happen to the place in the years to come, but so long as I live I'll never do aught toward bringin' the one as means to destroy it. But I count I ain't good for much longer, and that's why it don't make much odds, for I ain't got no son to hold it after me. Longcrofts be done for, Daniel. They be done for at last."

So before Daniel Pigg went away it was arranged that he should enter into communication with the second of the two applicants who aimed at founding a dynasty of usurpers at Whitelands farm. The property agent secretly felt a twinge of disappointment that the glorious transformation of the freehold on the lines he had briefly sketched in a moment of indiscretion did not seem likely to come off. But the professional satisfaction of having Whitelands pass through his hands at all was thoroughly agreeable to him. Mr. Longcroft took the thought of parting with it uncommonly well, he thought, on the whole. But there, 'twere only for his own good to sell it for as much as he could and be done with it, as he might have owned to a twelvemonth ago.

But to John Longcroft, the succeeding days—days of mellow September sunshine and a gossamer haunted stillness—were the bitterest of his life. Weak as he was already, he was visibly wasting away, and when Mary heard from Burndon that the prospective purchaser was still anxious to buy if the place proved suitable, she wrote to Daniel Pigg to urge him to hurry things on to the climax as soon as possible. Daniel sent word in due time that his client was now in Burndon and would come to inspect the property himself within the next few days, and then the time of waiting dragged on once more. Every day Tom Haygarth came to meet her at the farm or in the fringes of the woodland, and it was his presence and encouragement that gave her strength to go on. Every day the old man wandered by himself over each nook and corner of the farm on which his days and the days of his race were numbered or sat on some knoll of the down, gazing vacantly before him into the far-off scenes of the past. One golden, windless afternoon he was sitting by the side of a hollow cart track that came over the down a little way below the farm, and caught the full view of the black barns with their yellow lichened roofs, the farmhouse with the row of great elms beside it, and the sky line with the graves of the men of old. Mary and Tom were walking together not far off, for one of her self-imposed duties in these days was to shadow her father unseen wherever he went, for fear his feebleness should bring him into harm or difficulty; but seeing him safely settled there in the sunshine, they had wandered a little on. Then, as the old farmer sat there, a middle-aged man with a little boy topped the crest of the down and came slowly down the cart track toward him, stopping at last by his side. The old man turned his gaze and looked at them.

"Be you goin' to Whitelands, sir?" he asked, while the little boy stared at him curiously.

The other looked him steadily in the face. "Aye, I've come to speak with Mr. Longcroft," he said. "Come up from Burndon—from Mr. Pigg," he went on and looked at him again.

"Father, do you know me?"

The old man fell to trembling as he sat, and looked confusedly from one to the other.

"I—I knew the little one," he faltered, holding out his arms to the child with the yellow hair. "Thirty years ago, thirty years ago, and more. Oh, Phil, Phil, is it thou, my son, at last?"

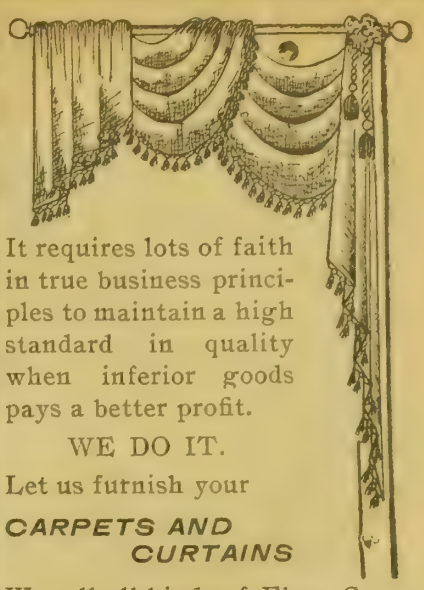
But it was the grown man who caught his outstretched hand and answered him.

So that night there slept in Whitelands a Longcroft to the second and third generation and, somewhat to the natural annoyance of Mr. Daniel Pigg, his client was able to dispense with all ordinary forms of purchase on entering into permanent residence upon the farm beneath the barrows.—Farm and Floral World.

Those who have been to Santa Catalina island or taken a trip in the Santa Barbara channel have found no little pleasure in watching the pranks of the flying fish. Children lean far over the rail and strive to be the first to shout "There goes another," as the shimmer of the lace like wings, or more properly pectoral fins, is seen as the fish flies barely above the waves. They "fly" or leap from near the prow of the vessel, and frequently fly a hundred or more feet before entering the water again. These fish belong to a species of the genus Exocoetus, and are found only in the warmer waters.

RULES FOR A LONG LIFE.

Keep your temper.
Eight hours sleep.
Exercise before breakfast.
Have changes of occupation.
(For adults). Drink no milk.
Exercise daily in the open air.
Take frequent and short holidays.
Have a mat at your bedroom door.
Do not have your bedstead against the wall.—Journal of Agriculture.



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September 5, 6, 7, 8.
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SANTA FE IS THE WAY

RECIPES

Eat Little, but Have That Little Good

Cold puddings are much more dainty and wholesome at this season than when served warm with rich sauce. They are also more convenient to the housekeeper when made the day before they are to be eaten, or in the cool of the morning, preventing the necessity of going over the fire in the heat of the day.

The recipes here given will be found economical as well as easy to prepare.

* * *

Custard Pudding—Put a quart of milk on the fire to boil. Moisten two tablespoonsful of corn starch into a little cold milk, and stir with the boiling milk. Beat the yolks of six eggs and half a cup of sugar together and add to the milk. Take from the fire, flavor with a tablespoonful of vanilla, pour into a pudding dish. Beat the white of the eggs to a stiff froth, add three tablespoonfuls of powdered sugar, heap on top of the pudding, and set in the oven for five minutes. Set on ice until cold, and serve.

* * *

Queen's Pudding—(An English recipe.) Moisten four tablespoonsful of corn starch with a little cold water, mix into a pint of boiling water, add half a teacup of sugar and pinch of salt, stir and let boil ten minutes. Take from the fire, flavor with a teaspoonful of vanilla, add the well beaten whites of three eggs, mix, and turn into a pudding mold, set on ice until firm, and serve with vanilla sauce.

* * *

Frost Pudding—Put half a box of gelatine in a little cold water to soak for half an hour. Pour over a pint of boiling water, add a cup and a half of sugar, stir until dissolved, squeeze in the juice of two large lemons, and stir the mixture into a tin pan, set on ice until cold. When thick and cold, beat with an egg beater until white. Whip the whites of four eggs to a stiff froth, and stir them gently into the pudding. Turn into a fancy mold and set on ice to harden. Serve with cold pudding sauce.

* * *

Cocoanut Pudding—Beat four eggs until very light, add three-fourths of a cup of sugar, a pint and a half of milk, one grated cocoanut, and a teaspoonful of vanilla; stir all together until well mixed and set in a moderate oven to bake for half an hour. Serve very cold with vanilla sauce.

* * *

Orange Pudding—Strain the juice of eight large oranges and two lemons through a coarse sieve. Add one ounce of dissolved gelatine with a pint of clarified sugar. Stir and pour into a fancy mould; set on ice. When firm turn out on a flat glass dish and garnish with bonbons.

* * *

Cold Chocolate Pudding—Put four ounces of grated chocolate in a small sauce pan, and stand over the teakettle to melt; stir until smooth. Put three coffee cups of new milk on the fire to boil; dissolve half a cup of corn starch in a little cold milk and add to the boiling milk, let cook until thick; add a small teacup of sugar and the stiffly beaten whites of five eggs, beat all together over the fire for five minutes. Take up the flavor with vanilla. Divide the mixture in halves. To one half add the chocolate. Pour half the white mixture in the bottom of a pudding mold, and then half the chocolate, pour with the white, and then add the remaining chocolate. Set on ice until frozen. Serve with whipped cream, sweetened and flavored with vanilla.

* * *

Lemon Pudding—Beat the yolk of four eggs to a cream, add half a cup of sugar, two tablespoonfuls of milk and three tablespoonfuls of corn starch, dissolve in a little water, beat until smooth, and strain. Add the juice of two, and the grated rind of one lemon, with the beaten whites of the eggs; turn into a greased pudding dish, dredged with powdered sugar, and set in a quick oven to bake. When cold serve with whipped cream.

HOMELY HINTS.

In order to keep preserved fruit, a dark closet, well ventilated, is necessary. A paper bag placed over the jar will exclude the light if the closet is not sufficiently dark.

In repainting old chairs, either black or white looks much better than any colored paint one can use. Old bath tubs can be nicely freshened up with a coat of paint, besides numerous other household articles which easily suggest themselves.

The stair carpet needs to be cut a little longer than the exact measurement of the stairs so as to allow it to be shifted 8 or 10 inches each time it is taken up. This makes it wear more evenly and prevents that worn strip along the edge of the step from coming. Two or three newspapers folded to the right size and shape on each step both saves the carpet and greatly improves the appearance, giving very much the effect of padding, besides feeling soft and velvety to walk on.

From brass stair rods, and indeed any brass articles which have been neglected and are consequently discolored almost past recognition, so much so as to prove very tedious to cleanse in the ordinary way, oxalic acid will remove the blackest stains at once, and after a little polishing with chamois skin they look as good as new with very little trouble.

Zinc bath tubs, water buckets and other utensils can be kept from getting to look old and discolored by cleaning every now and then with a hot solution of salt and vinegar. This is also good for copper cooking utensils. One has to give extra care to these, for without it they can really become unsafe to prepare food in on account of the poisons that collect with corrosion. If they or the zinc vessels be very dirty, of course a scouring with soap and ashes at first is a good plan.

Tin teakettles may be nicely cleaned with kerosene, but must of course be very carefully washed so that no trace of the oil will be left.

Mix stove blacking with a little ammonia and it will not burn off.

Grate a little fine spermaceti into your starch if you want the linen glossy.

Daughter—But, ma, I don't like him.

Mother—He is an only son and his father is very rich.

"Well, as to that, his father is a widower, and may marry again."

"True. I did not think of that. Perhaps you'd better marry the father."

One cannot be a friend without having one.—A. S. Hardy.

Los Angeles Markets.

Los Angeles, June 16.

General market conditions remain good. Fruit is in in better quantity, and quality, and fair prices prevail, as a rule.

Butter.

Butter from valley creameries is in abundant receipt and tends to hold the price near to the San Francisco prices, which is quoted 2½ cents lower than Los Angeles. Quotations are exactly as last week.

B. of T. Cream, 2-lb roll		45
Valley creamery, farcy..	45	
Coast Creamery		40
Cooking, per lb.		20

Cheese.

There is no change in the quotations of cheese. Best grades hold firm under a fair demand.

Cal. and 3 lb. hand	14	
Cal. Downey and Anchor	12	
Northern	11	12
Swiss	21	
Imported do ...	26½	

Eggs.

Eggs have advanced slightly and are quickly picked up and storage is nearly stopped. Eastern are now in the market and affect values which would otherwise go higher.

Store, case count	18	19
Fresh ranch	22	23
Eastern	21	

Poultry.

Broilers, up to 1½ lbs...	15	17
Broilers, 1½ to 2 lbs.....	17	18
Fryers, 2 to 2½ lbs.....		20
Young Roosters, 2½ up..		22
Hens, No. 1, per lb.....	12	14
Ducks, per lb.....	17	19
Turkeys, per lb	16	20
Turkeys, dressed	30	

Live Stock.

Hogs, per cwt 5 50		5 62½
Prime steers, cwt 3 75		4 25
Cows, cwt 3 00		3 50
Calves, cwt 4 00		5 00
Sheep, ewes, per head..3 00		4 00
Lambs, do 3 00		3 50
Wethers, do 4 25		4 50

Potatoes.

New potatoes are in light receipt owing to vast damage by scab. This injury is much greater than at first anticipated and would tend to a material increase in quotations, were it not for the large holdover of old stock. The attempt to corner the old stock resulted in higher prices and consequent lower consumption.

Highland Burbank old...1 50		1 75
River, per cwt		1 50
Nevada Pearls, old.....		1 25
Oregon, old		1 50
Early Rose, new		1 40
Nevada Pearls, new		1 25

Vegetables; Mixed.

Vegetable market is firm with as a rule, good stock, coming in. Asparagus is high and light in receipt on account of rust.

Onions, Silver Skin		1 25
Onion, Red		1 25
Beets, per 100 lbs..		80
Green Peas	04	05
Cabbage, per ton 6 00		7 00
Lettuce, per sack		40
Tomatoes 25 lb. crate ..		90
Carrots, per sack	60	70
String Beans		03
Wax Beans		04
Chiles, green, per lb.....		05
Rhubarb	75	1 00
Asparagus		06

CITRUS FRUITS; FRESH

Standards	60	
Lemons, fancy, per box..1 50		
Standard, do	75	1 00
Grape Fruit		1 25

DECIDUOUS FRUITS FRESH

Grapes per box	65	1 35
Plums, Burbank per lb...		05
Apricots lb		05
Strawberries 4-6		2½-3
Loquats		05
Cherries, 10 lb. box.....		80
Bulk cherries		07½
Gooseberries, 20 lb. box..		90
Loganberries, small		04
Watermelons, per doz ...5 00		6 00
Blackberries		04
Cantaloupes, per crate ...3 00		3 50

Fruits; Dried.

Apples, evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink 3 75		4 00
Lady Washington, ...3 25		3 40
Limas 4 00		4 15
Small White 3 60		3 65
Garvanza 4 50		4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
Peanuts, eastern	07½..	08
Peanuts, California	07½	08

HONEY.

White, strain, per lb		06
Light amber, do	05	06
Comb, water white		15
Do, light amber		13

HAY.

Alfalfa 11 00		12 00
Tame Oat		12 00
Barley hay 11 00		13 00
Wheat hay 11 00		13 00

GRAIN.

Oats 1 35		1 40
Wheat 1 65		
Barley 1 20		1 35
Corn 1 35		1 50

Mill Stuff.

Quotations f. o. b. cars L. A. are:

Rolled barley 1 25		
Bran.... ... ...1 30		
Feed Corn Meal		1 60
Middlings		1 45
Cracked Corn		1 55
Oil Cake Meal		1 85
Cocoanut Meal		1 50

San Francisco Markets.

San Francisco, June 16.

Dairy.

In butter there is no change in quotations, though the effort on the part of the buyer for speculative storing has to be stronger in order to hold down the price. It must soon take a rise.

BUTTER—Per lb:

Creamery, extras	20
Creamery, good to fancy	18 @19
Dairy, extra	17 @18
Dairy, choice	15 @16
Store	14

CHEESE—Per lb:

Cal. Creamery, mild, new extra	10 @10½
Cal. Creamery, mild new, choice	8 @ 9
Young America	10 @11½

Eggs and Poultry.

Eggs continue upward though the receipts continue liberal. Effort is made by buyers to bear the market, as it is now too high for storing.

EGGS—Per doz:

Ranch, selected, large	24
Ranch, good to fancy	20 @23
Store	17 @19
Eastern, firsts	20 @21
Eastern, seconds	16½@18

Poultry, young stock, is constantly kept cleaned up in market with keen demand. Old stock is slow. Several cars of eastern drag down market.

POULTRY—Old Roosters, per doz., $4.00 @4.50; young Roosters, $7.50@9; Fryers, $5.50 @6.50; Broilers, large, $3@4; small, $2@3; Hens, small, $4@5; large, $5.50@6; Ducks, per doz., old, $4@4.50; young, $4.50@5.50; Live Turkeys, per lb., 14@15c; Geese, per pair, $1.25@ 1.50; Goslings, $1.50@1.75; Pigeons, per doz., old, $1.50@1.75; young Pigeons, $1.50@1.75, fancy squabs, $2@2.50.

Fruits and Vegetables.

Fresh fruits are in greater receipt each day except cherries, which are some lighter and readily cleaned up. Packed descriptions were in keen demand, while loose lots ruled firm. Apricots are in in great quantity, yet, with shipping demand, have been held level and good prices yet prevail. Canners have paid as high as 5½ for Royal Annes. Peaches sell at good prices though the quality is, as a rule, most indifferent. Strawberries are off on quality, with the better grades commanding ready sale. Blackberries sluggish, Logans, uneven; Currants plentiful and cheap; Gooseberries steady.

DECIDUOUS FRUITS.—Apples, per box, $1@2.50; Green Apples, per small box or basket, 25@50c; do, large box, 75c@$1.25.

Cherries—Per box: Black and Red, 50@75c; Royal Annes, 60@75c; bulk, per lb., Black and Red, 4@6½; Royal Annes, 5@6c; White, 3c @3½c.

Apricots—Per box or crate, 40@85c; basket, 60@75c.

Peaches—Per box, 75c@$1.

Pears—Per box or basket, 25@35c.

Plums—Per box, 40@75c.

Cantaloupes—Crates, $1@4.

Grapes—Per crate: Seedless, $1.25@1.50.

BERRIES—Per chest: Strawberries, Longworths, $5@8; large varieties, $2.50@5; Raspberries, $6@12; do, crate, 75c@$1.75; Blackberries, $4@6; Loganberries, Red, $2@3; Black, $3@4; Gooseberries, per lb., common, 1½@3c; do, English, 7c; Currants, $2.50@4.

CITRUS FRUITS—Per box: Oranges, Navels fancy, $2.50@3.50; choice, $2@3; standard, $1.25 @1.75, according to size. Seedlings, $1.10@ 1.25; late Valencias, $2@3; Mediterranean Sweets, $1.25@2; Lemons, $1@3; Grape Fruit, $1@$2.50; Limes, $4.50@$5.50.

New Potatoes are in lighter receipt than anticipated and all stock is quickly picked up. Some have sold as high as $2.30. Old are firmly held at quotations. Onions are liberally offered, with a tendency to shade prices Good stock of Asparagus demands highest quotations.

VEGETABLES—Asparagus, per lb., 4@7c; Tomatoes, per box or crate, southern, 50@$1; do, Mexican, $1@1.25; do, Mississippi, per crate, $1.10@1.25; Rhubarb, per box, 60@75c; Green Peppers, per lb., southern, 4@7c; Stockton, 12½@15c; Dried Peppers, Stockton, 7c@ 8c; southern, 8@12½c; String Beans, per lb., 2½@5c; Wax Beans, 3@5c; Green Peas, per sack, $1.50@2.25; Garden Peas, per lb., 3@4c; Egg Plant, per lb., 5@10c; Summer Squash, per box, bay, $1@1.50; southern, 50@75c; Cucumbers, hothouse, per doz., 50@90c; Marysville, per box, 75c@1.25; Garlic, per lb., new, 4@6c; Marrowfat Squash, jobbing at 1@2c per lb.

POTATOES—Per ctl: River Burbanks, 90c@ $1; Oregon Burbanks, $1@1.40; New Potatoes, Whites, $1.50@2; Early Rose, $1.40@1.65.

ONIONS—Per ctl: Silver Skins, $1.25@1.50; New Red, 75@85c.

Dried Fruits, Nuts, Etc.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are per lb. as follows:

Apples—Evaporated, 4½@6c; Sun Dried, 3c @3½c.

Apricots—Royal, fancy, 10@10½c; choice, 8¼@9c; Moorparks, 10@12c.

Plums—Pitted, 5@7½c unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2@2½c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 7c; fancy, 8@8½c; peeled, in boxes, nominal.

Pears—Bartlett, fancy, 15c; choice, 12½c @13c.

Nectarines—Nominal

Figs—White, 3@4c; Black, 4@4½c.

HONEY.

HONEY—Comb, per lb., nominal; Extracted White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb., 28@29c.

Hops.

The price of new crop is 27½@30c per lb, according to quality.

Beans.

BEANS—Prices per ctl: Large White, $2.35 @2.65; small do, $2.90@3.15; Pea, $2.90@3.15; Lima, $3.25@3.40; Red, $4.25@4.50; Pink, $3.40 @3.60; Bayo, $2.35@2.55; Blackeyes, $2.05@ $2.25; Kidneys, $4.75@5.

DRIED PEAS—Prices per ctl: Niles, $3.25; Green, nominal.

Live Stock.

The call for Live Stock is rather listless, but as offerings are not regarded as excessive the market shows no quotable weakness, although some easiness is noted in the cheaper lines of stock.

CATTLE—No. 1 Hay-fed Native Steers, 7½c @8c; second quality, 7@7½c; thin steers, 6c @6½c; No. 1 Grass-fed Steers, 7¾@8¼c; No. 1 Cows and Heifers, 6@6½c; second quality, 5½@6c; third quality, 5@5½c; thin Cows and Heifers, 4½@5½c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

SHEEP—Per lb: Unshorn Wethers, No. 1, 4c, gross weight; Shorn, 3@3½c; Ewes, No. 1, unshorn, 3½@3¾c, gross weight; shorn, 3@ 3½c.

CALVES—Light, per lb., 4@4½c, gross weight; heavy, 3¾@4¼c, gross weight.

LAMBS—Suckling, per head, $2@2.25 or 4½c @5c per lb., live weight.

HOGS—Per lb., Hard grain-fed, weighing alive 80 to 200 lbs., 4¾@5c; weighing 200 to 300 lbs., 4½c; rough heavy, 3¼@4c.

WOOL.

The Wool market holds a strong position in favor of sellers and the prevailing prices are maintained with marked firmness. Offerings have been closely cleaned up at primary points throughout the entire Pacific Coast and relatively higher prices were paid at these points than are at present ruling in seaboard markets.

WOOL—Spring Clip, per lb: San Joaquin and Southern, 12 months, 9@11c; do, 7 months, 8@10c; Middle Counties, free, 12@16c.

Hay and Feed Stuffs.

HAY—Per ton: Wheat, $10@15; Wheat and Oat, $10@13; Oat, $7@12.50; Barley, $8@10; Clover, nominal; Alfalfa, $7@10; Stock, nominal, New Hay, volunteer, $7@8.

STRAW—Good to choice, per bale, 60@75c.

FEED CORN MEAL—Choice grades, per ton, $32.50@33.

GROUND BARLEY—Per ton, $23@24.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, $22@23.

OILCAKE MEAL—In lots of 20 tons, $29.50 per ton; 10 tons, $30; 5 tons, $30.50; less quantity, $31. Prices are mill rates and are subject to change without notice.

Cereals.

The first new crop Oats for this season came to hand yesterday. The shipment was two carloads of the Red variety and the Grain was grown in the San Joaquin valley.

FLOUR—Net cash, Family Extra, $4.60@ 4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.50@4.30.

WHEAT—No. 1 shipping, per ctl., $1.27½; Choice, $1.30; White Milling, good to choice, $1.32½@1.45.

BARLEY—Choice No. 1 Feed, $1@1.03¾; off grades, 97½@98¾; Brewing, No. 1, $1.05@ $1.12½; Chevalier, nominal.

OATS—Good to choice, White, $1.40@1.45, Red, $1.27½@1.35; Black, nominal at $1.22½@ $1.27½.

CORN—Good to choice, per ctl: California, new, large Yellow, $1.52½@1.55; small do, $1.60@1.62½; White, $1.52½@1.55; Eastern, $1.45@1.52½.

CRACKED CORN—Choice quality, per ton, $33@33.50.

RYE—Good to choice, per ctl., $1.30@1.32½.

Eastern Markets.

Grain and Produce.

CHICAGO, June 15.—For the first half of the session, sentiment in the wheat pit was bearish and prices were a trifle lower than yesterday's closing figures. The tone at the close was firm.

Cash quotations were as follows: Flour was quiet and easy; No. 2 spring wheat, 92@95; No. 3, 85@93; No. 2 red, 1.01@1.02; No. 2 yellow, 50½; No. 2 oats, 42½@41⅞; No. 3 white, 41½@43½; good feeding barley, 36@41; fair to choice malting, 44@54.

Articles—	Receipts.	Shipments.
Flour, barrels	42,500	31,700
Wheat, bushels	53,000	56,100
Corn, "	502,100	305,800
Oats, "	33,000	167,400
Rye, "	4,000	1,100
Barley "	30,800	4,700

On the Produce Exchange today the butter market was easy; creamery, 13½@17½; dairy, 11½@16; eggs, weak, 14@14½; cheese, weak, 7⅛@8.

NEW YORK, June 15.—Wheat: Spot was easy; options closed firm, July closing at 91⅝; September, 84⅝. Hops dull.

Live Stock.

CHICAGO, June 15.—Cattle—Receipts, 21,000; steady; good to prime steers, 5.75@6.65; poor to medium, 4.75@5.65; stockers and feeders, 3.00@4.75; cows, 1.75@4.75; heifers, 2.50@ 5.25; canners, 1.75@2.75; bulls, 2.25@4.75; calves, 3.00@5.25. Hogs—Receipts, today, 33,000; tomorrow, 23,000; 5c lower; mixed and butchers, 4.90@5.05; good to choice heavy, 4.95 @5.08½; rough heavy, 4.85@5.95; light, 4.80@ 4.95; bulk of sales, 4.90@5.00. Sheep—Receipts, 15,000; sheep and lambs steady; good to choice wethers, 4.75@5.25; native lambs, 5.00@ 6.75.

Dried Fruits, Nuts, Etc.

NEW YORK, June 15.—The market for evaporated apples is meeting with less export attention, but offerings are light, and the feeling among holders confident. Common are quoted at 4@5¼; prime, 5½; choice, 6@6½; fancy, 7. Prunes continue quiet, and show little future. Quotations range from 2¾@7, according to grade. Apricots are in moderate demand and firm; choice are quoted at 9½@10; extra choice, 10¼@10½; fancy, 11@13. Peaches are in light supply and spot are firmly held. Choice are quoted at 7@7¼; extra choice, 7½ @8; fancy, 9½@10.

CITRUS MARKETS

AUCTIONS.

NEW YORK CITY, June 10th, 1904.

NAVELS: Golden Rule, Riv., Riverside, $2.15; La Mesa, $2.65, $2.35; Red Globe, $2.65, $2.35.

Coyote, O. K. Ex., Ontario, $2.15.

Mission Bells, C. C. U., Chapman, $2.35.

Pansy, C. C. U., Glendora, $2.50.

Uncle Sam, Riv., Pachappa, $2.10; Fiesta, $1.85.

MED. SWEETS: Amethyst, Sd., Glendora, $2.75; Topaz, $2.70.

Leader, Q. C. Ex., Corona, $1.75; Choice, $1.50.

LEMONS: Choice, Q. C. Ex., Corona, $1.30; Corona Beauty, $1.55.

BUDDED: Mission Bells, C. C. U., Chapman, $2.35.

Trumpeter, C. C. U., Marino, $1.75.

ST. MICHAELS: Rose, C. C. U., Redlands, $2.80; Clover, $2.75.

Pansy, C. C. U., Glendora, $2.45.

MALTA BLOODS: C. C. U., E. Alhambra, $2.05.

SEEDLINGS: Lilac, C. C. U., Pomona, $2.25.

BOSTON, Mass., June 10th, 1904.

NAVELS: Lincoln, A. H. Ex., Victoria, $2.70; Navajo, $2.45.

Coyote, O. K. Ex., Narod, $2.10.

Golden Rule, Riv. Ex., Riverside, $2.50.

Bear, O. K. Ex., Upland, $3.50; Quail, $2.75; Owl, $2.10.

LEMONS: Corona Beauty, Q. C. Ex., Corona, $1.45; Choice, $1.25.

Gondolier, C. C. U., Rialto, $1.30.

La France, J. S. Kuns, $2.40.

NEW YORK CITY, June 13th, 1904.

NAVELS: Blue Globe, Riv., Riverside, $3.40; La Mesa, $2.50, $2.65, $2.80; Golden Rule, $2.50, $2.15.

Uncle Sam, Riv., Pachappa, $2.35; Fiesta, $2.50, $2.15.

Quail, O. K. Ex., Upland, $3.40.

Clover Leaf, Westfall & S'dra, $2.75.

Three Fates, A. L. King, $2.45.

Clover, C. C. U., Redlands, $2.10; Monogram, $2.20.

Lincoln, A. H. Ex., C. B. Sta., $2.35; Navajo, $1.85.

Palm Tree, A. H. Ex., Prenda, $2.25; Squirrel, $2.45.

Old Mission, Chapmans', $2.15; Golden Eagle, $1.60.

SWEETS: Rose, C. C. U., Redlands, $2.55; Clover, $2.30.

Rey (Med.), S. T. Ex., Fernando, $2.60; Tunnel, $2.25.

Ocean, Moffatt Ft. Co., $2.75; Santa Fe, $2.30.

Three Fates, A. L. King, $2.25.

Loma Vista, Success, F. H. Spiech, $2.20; A. P. Nelson, $3.05.

ST. MICHAELS: Rose, C. C. U., Redlands, $2.85; Clover, $2.65, $2.60.

Rey, S. T. Ex., Fernando, $2.30; Tunnel, $1.95.

Squirrel, A. H. Ex., Prenda, $2.30.

Cármencita, S. T. Ex., Fullerton, $2.35; Orange Bowl, $2.15.

Loma Vista, A. P. Nelson, $1.45.

BLOODS: Squirrel, A. H. Ex., Prenda, $2.65.

Quail, O. K. Ex., W. Cucamonga, $2.40; Lark, $2.25.

Quail (Ruby), Uplands, $2.35; Lark, $2.10.

BUDDED: Orchard Run, Riv., Riverside, $1.90; Blue Globe, $2.35, $2.30; Red Globe, $2.00.

Carnation, C. C. U., C. B. Station, $1.90.

PHILADELPHIA, Pa., June 13th, 1904.

NAVELS: Hunter, A. C. G. Ex., Azusa, $1.70; Pointer, $2.10, $2.05, $2.00.

Stag, A. C. G. Ex., Glendora, $2.80; Pointer, $2.00.

Palm Tree, A. H. Ex., Prenda, $2.25.

A. H. Ex., Arlington, $2.20.

O. K. Ex., Ontario, $2.15.

Hunter, A. C. G. Ex., Glendora, $1.55.

Golden Rule, Riv., Riverside, $1.95.

BUDDED: Columbia, C. C. U., C. B. Station, $1.65; Excelsior, $1.45.

Trumpeter, C. C. U., San Marino, $1.90.

Red Globe, Riv., Riverside, $1.80.

SWEETS: Infantry, C. C. U., Piru, $2.45.

Dragon (Malta), C. C. U., Orange, $2.35.

Leader, Q. C. Ex., Corona, $2.40; So. Beauties, $2.80.

VALENCIAS: Artillery, C. C. U., Piru, $2.75; Red Cross, $2.20.

LEMONS: Lighthouse, C. C. U., No. Pomona, $1.30; Lilac, $1.45.

BOSTON, Mass., June 13th, 1904.

NAVELS: Jewel, S. A. Ex., Pomona, $2.70; Carlo, $2.30.

Blue Globe, Riv., Riverside, $2.35; Red Globe, $2.60.

Quail, O. K. Ex., Upland, $2.95; Coyote, $2.35.

La Mesa, Riv., Riverside, $2.70; Golden Rule, $2.30.

SEEDLINGS: Don Quixote, S. T., E. Alhambra, $1.70.

Purita, S. B. Ex., Rialto, $2.00.

Tally Ho, S. B. Ex., Rialto, $1.75.

Angel, C. C. U., Colton, $2.20; Marguerite, $1.95.

LEMONS: Grove, Q. C. Ex., Corona, $1.15; Corona Queen, $1.30.

Fancy, S. B. Ex., Colton, $1.10; Floral, $1.05.

Royal Knight, S. B. Ex., Redlands, $2.45.

ST. MICHAELS: Royal Knight, S. B. Ex., Redlands, $3.00; Royal K. (½), $1.15.

Rose, C. C. U., Redlands, $2.85.

Plain (Navels), J. M. Riley, $1.60.

SWEETS: So. Beauties, Q. C. Ex., Corona, $2.75; Leader, $2.50.

Swan (Grape Ft.), S. B. Ex., Redlands, $2.65; Florencia, $1.80, $1.85.

NEW YORK CITY, June 14th, 1904.

NAVELS: Red Globe, Riv., Riverside, $2.10; La Mesa, $2.50, $2.80; Golden Rule, $2.50, $2.15.

Uncle Sam, Riv., Pachappa, $2.45; Fiesta, $2.30.

Jewel, S. A., Pomona, $2.30.

Clover Leaf, Westfall, $3.00.

Mission Bells, C. C. U., Chapman, $2.25.

Fox, C. C. U., W. Duarte, $1.90; Bunker Hill, $1.80.

Carnation, C. C. U., Riverside, $2.85.

Pointer, A. C. G. Ex., Azusa, $1.80.

Old Mission, Chapmans', $2.60; Golden Eagles, $2.15.

ST. MICHAELS: Carnation, C. C. U., C. B. Station, $2.55.

Gypsy Queen, C. C. U., Riverside, $2.65.

Quail, O. K., W. Cucamonga, $2.40; Lark, $2.15; Owl, $2.00.

BLOODS: Mission Bells, C. C. U., Chapman, $2.35.

Blue Globe (Malta), Riv., Riverside, $2.30; Red Globe, $1.45.

Owl, O. K., W. Cucamonga, $1.45.

BUDDED: Blue Globe, Riv., Riverside, $2.55; Red Globe, $1.95.

Carnation, C. C. U., Riverside, $1.95; Starlight, $1.85; Moonbeam, $1.60.

BOSTON, Mass., June 14th, 1904.

NAVELS: Pet, S. A. Ex., San Dimas, $2.40.

Jewel, S. A. Ex., Pomona, $2.80.

Uncle Sam, Riv., Pachappa, $2.75; Fiesta, $2.50.

Golden Rule, Riverside, $2.75.

Bear, O. K. Ex., Upland, $3.55; Quail, $2.80; Owl, $2.60.

Pointer, A. C. G. Ex., Azusa, $1.85.

SEEDLINGS: Rey (Budded), S. T. Ex., Fernando, $2.50; Tunnel, $1.75.

ST. MICHAELS: Pet, S. A. Ex., San Dimas, $2.50.

Pine Cone, S. B. Ex., Highland, $2.95.

SWEETS: Rey (Med.), S. T. Ex., Fernando, $2.85; Tunnel, $2.50.

Carrier, S. B. Ex., Highland, $2.75.

Atlas (Med.), C. C. U., Redlands, $1.80.

Choice, Q. C. Ex., Corona, $2.20.

LEMONS: So. Beauties, Q. C. Ex., Corona, $2.90; Choice, $1.75; Leader, $2.20.

CITRUS FRUIT SHIPMENTS.

Sunday and Monday, June 12-13, oranges, 77; lemons, 16; coast, 17.

Total to date this season, 24,395 cars, of which 1860 cars are lemons.

Total to same date last season, 18,790 cars, of which 1866 were lemons.

FRUIT SHIPMENTS EAST.

Cherries are still the leading shipper, with 'cots beginning to be a material factor, and with peaches about to begin. The shipments up to Tuesday were 180 cars, against 229 last year same date. Due largely to more backward season. Monday's shipments amounted to 22 cars. Of these 11¼ were cherries and 10½ apricots, and a quarter car of plums.

The Sacramento Union says that Texas peaches are being offered the Kansas City and even further north markets. These will compete with California and may make a lower price on California fruit.

From amongst eastern sales reported Monday, we quote:

Fifteen carloads of California fruit were sold, practically all cherries, though there were a few scattered boxes of apricots, which sold for a fairly good price. Prices were fairly good in all the centers, New York being rather the best and iMnneapolis a little the poorest market, though the condition of the fruit had a bearing.

Three carloads were sold in Chicago. One car was from San Jose on June 2nd, one from Newcastle on June 1st and one from San Jose on June 4th. The first named car grossed $2232, the second $1844 and the third $2071.

Four cars were sold in New York. One from Vacaville on May 30th grossed $2196, with prices running from 75 cents to $1.30. A car from San Jose on May 31st fetched $2634, with prices running from $1 to $1.40, largely Royal Annes. A car from Suisun on the 30th of May brought $2065, with prices from 65 cents to $1.65 for extra choice, while a car from San Jose on the 30th brought $2663, with prices by box running from $1 to $1.40.

A car from San Jose on May 30th sold in Philadelphia for a gross of $1959, the price by box being from 65 cents to $1.20.

A car was sold in Pittsburg for $2012. This car was shipped from Newcastle on June 1st. The price ranged from 60 cents to $1.25.

Three carloads were sold in Boston. One from San Jose on May 31st, one from Vacaville on May 31st and one from San Jose on May 30th. The first named car brought $2177, the second $2421 and the third $2321. The price by box was from 75 cents to $1.75.

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LOS ANGELES SAN FRANCISCO

JUNE 24, 1904

IN THIS ISSUE: Thoroughbreds in the Dairy; To Sulphur on a Large Scale; A Parasite for the Red Scale; Orange Tree Propagation; Hardpan; Meeting of the Oakland Poultry Association.

SIGNORA BRUCE

The only officially tested Jersey in California, giving in 7 day test 250 lbs. milk, 14.45 lbs. butter.
Property of Guy H. Miller, Riverside.

CIRCULATION EXCEEDING 10,400

The Call of the Hen

A Visit to the World's Largest Poultry Farms

BY A. R. COULSON

PART .XI

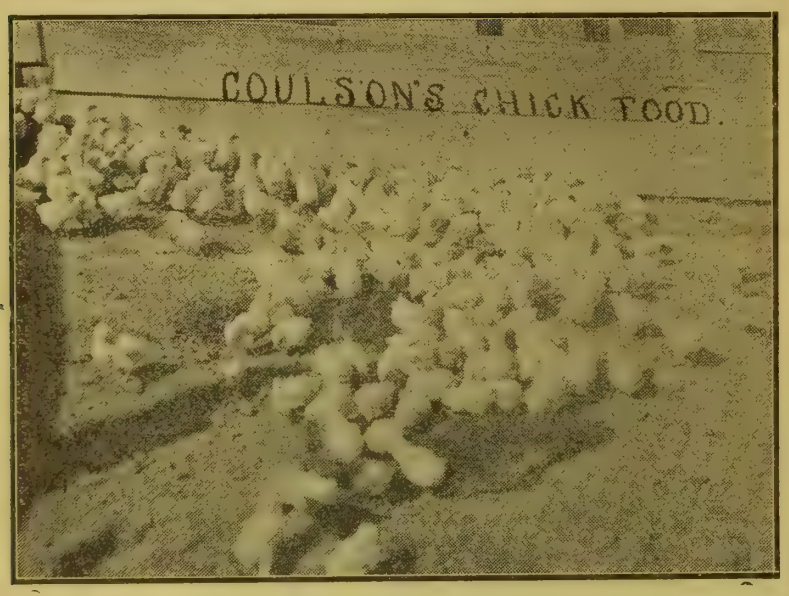
Bright and early one spring morning in April we were spinning over the roads through the valleys in Marin county near Fallon's creamery. There were poultry farms scattered here and there, and on both sides of the road there were poultry houses and all the hens were out for their morning stroll, running hither and thither on the green grass and waiting for their owners to bring them their breakfast of Coulson's Egg Food so that they could begin their days work of singing, cackling and laying lots of eggs: each hen had her task and each hen was singing that they would gladly lay one egg a day as long as they were given nice clean quarters and a nice warm breakfast of Coulson's Balanced Ration Egg and Feather Food.

In driving along the road you could tell the ranches where Coulson's Egg Food was fed and the hens were always in nice, healthy looking appearance, bright, spry, and nice glossy feathers.

One of the foremost poultry farms there is one owned by Ed. J. Callon. It comprises 450 acres and is stocked with about 2500 laying hens and 5000

And as we were driving along we noted the many poultry houses on both sides of the road and the most prosperous places were those where the owners fed their hens on the best class of feed (Coulson's Egg Food) for laying hens.

The above illustration shows a bird's eye view of Ed. J. Callon's poultry farm. Mr. Callon is one of the foremost poultrymen in that valley. Mr. Callon knows that Coulson's Egg and Feather Food is good feed for laying hens. Mr. Callon has about 2,500 well kept, healthy appearing White Leghorn hens and gets many eggs a day.



A brooder house containing 500 little chicks one week old. These chicks were fed on COULSON'S CHICK FOOD. Note how nice, plump and healthy they look.

There are three things necessary for success with raising chicks.

1st. To have good stock.

2nd. Cleanliness and care.

3rd. The proper kind of feed to promote the health and growth of the chicks and that is COULSON'S CHICK FOOD.

Ed. J. Callon, proprietor of 450-acre dairy and poultry farm stocked with 2,500 laying hens and about 4,000 growing chicks.

Mr. Callon was one of the first poultrymen near Fallons to use Coulson's Poultry Foods.

little chicks being raised. (See illustration of chicks one week old fed on Coulson's Chick Food.) All the poultry houses are kept thoroughly clean, disinfected and free of lice by spraying once a month with COULSON'S IMPROVED PHENOLENE of which Mr. Callon uses hundreds of gallons. (Price of Coulson's Phenolene, 50 gallons for $11.)

Mr. Callon's poultry and dairy farm is a beautiful place and it runs for about one-half mile on each side of the road. One of the main points for success with poultry raising is feed.

WHY WE FEED.

We feed poultry for flesh and for EGGS; principally FOR EGGS. In order to produce these articles the poultry should be well fed. We find that different feeds differ greatly in their various nutriment elements which they supply. Feeding stuffs are made up of four different values.

First—Water, which is of no importance except to effect the palatability of the food.

Second—Mineral substance, bone building.

Third—Carbo Hydrates, heat producing materials (starch, sugar, fat, woody fibre, and similar compounds that make up the bulk of dry matter.)

Through their combustion the heat producing substances supply and keep up the animal heat of the body and also furnish energy for the work.

Fourth—PROTEIN (flesh forming materials.) This protein is found in greatest quantities in purchased concentrated foods. The protein in these feeds goes to make the flesh and muscle and furnish material repuired in the production of eggs. The white of an egg is protein. The casine of milk, the albumen in blood, also the basis of lean meat and muscle. Protein necessarily enters into the formation of every bone, muscle, organ, tendon, tissue or feathers. Different feeds contain these articles in different proportions and also in the proportions of these elements that can be digested and made use of. For instance, barley contains nearly two ounces of protein to the pound, but only 1 1-3 ounces can be digested by a hen, where Armour's fresh Heart and Liver Meal contains over 10 ounces of digestable protein in a pound.

Considering the different values in soft feed for poultry according to digestability, 1 ton of Corn Meal contains 135 pounds of digestable protein; carbo hydrates, 1325 pounds; minerals, 18 pounds; nutritive ratio, about 1 to 10.

One ton Barley Meal contains about 125 pounds of digestable protein; Carbo Hydrates 1200 pounds; Minerals, 38 pounds; nutritive ratio, 1 to 9.

One ton Bran contains about 220 pounds digestable protein; Carbo Hydrates, 800 pounds; nutitive ratio, 1 to 3¾.

One ton Shorts contains about 180 pounds digestable protein; Carbo Hydrates 800 pounds; nutritive ratio, 1 to 4 4-5.

One ton White Middlings contains 240 pounds of digestable protein; Carbo Hydrates, 1050 pounds; Minerals, about 3 per cent; nutritive ratio, 1 to 4¾.

COULSON'S BALANCED RATION EGG FOOD contains about 375 pounds digestable protein, flesh and egg producing materials. 110 pounds digestable Carbo Hydrates and 140 pounds minerals or bone and feather building material; nutritive ratio, 1 to 3.

The home of Ed. J. Callon, situated in the beautiful valley about one mile from Fallon's creamery.

Coulson's Egg Food is so rich that you only feed 1 meal a day of it and feed whole grain the balance of the day.

One ton Corn Meal at $31 a ton, the digestable protein it contains would cost an average of about 23c for each pound of protein.

In Barley Meal, at $28 a ton, the

(Continued on Page 558.)

Bringing a load of three tons of Coulson's Egg and Feather Food to Ed. J. Callon's Poultry Farm.

CALIFORNIA CULTIVATOR

A WEEKLY JOURNAL DEVOTED TO AGRICULTURE IN ALL ITS BRANCHES.

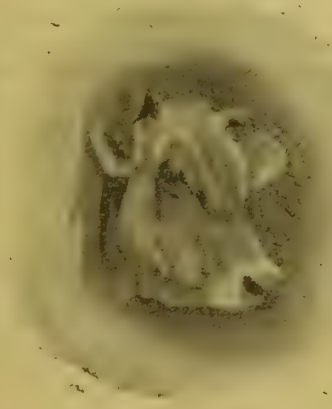
Vol. XXII—No. 26 LOS ANGELES, CAL., FRIDAY, JUNE 24, 1904 Subscription $1 a Year

Thoroughbreds in Dairy

If a prettier sight than a bunch of well bred, well cared for young Jerseys is to be had, it's well worth going far to see. The Jersey is a beautiful animal and justifies the interest in it and the love for it as expressed by its friends, on simply a matter of looks, regardless of the "pail" which most Jersey men insist is wherein lies the greatest beauty. There is no claim for beef. The Jersey lover—yes, lover—simply smiles as he looks on his pets and says, "yes, it isn't what they are, 'tisn't their bulk, but what they do." "Economical production," "wealth makers," "Jersey is the very synonym of richness," are the remarks which a Jersey man will throw at you. As one man said, "look at nearly every milk wagon in the cities and the word Jersey is on it somewhere."

Yet the Jersey folks need a shaking up in California. The other day while amongst the orange growers of Riverside we dropped down to the alfalfa fields and to the corral of Guy H. Miller, and were in the herd which only recently held the only advanced registry Jersey cow in California. More, the only officially tested Jersey in the State. This won't be true a year from now, yet there will be fewer such tests than probably should be. The trouble is, of course, many feel that the seven-day test is not of great value, while the twelve-month test, if official, is expensive, and the expense on a small herd is not easily carried. However, it is the best advertising which a breed may avail itself of. And the Jersey men need to advance on that line.

But to refer again to this herd, the Venadera herd, owned by Mr. Miller. Every one is registered, every one a beauty. Beautiful in doing, beautiful in contour and appearance. Mr. Miller keeps most careful annual record of each cow. At each milking weighing is done, giving totals each month which may be followed year by year. Composite tests are made once each month which gives most accurate basis to judge a cow's true worth as an immediate producer and as a foundation for a herd. The record of one of these cows, or heifer, rather, it was our pleasure to secure. It was of Evelyn of Venadera, sire Harry B. Gordon, No. 47246, dam Elaine C., No. 117925. Evelyn was born April 17th, 1901; came fresh with first calf April 26th, 1903, age two years and nine days. Began weighing her milk daily May 2nd, and taking composite samples of four milkings about the middle of each month from Babcock tests. Butter is estimated from these tests on the basis of 85.7 per cent of fat in the butter the usual rule of experiment stations. Evelyn has a right to be a great producer, having inherited the richest producing blood from her sire, and her dam, Elaine C., was a great producer, having given in 365 days 8620 pounds milk, making 532.86 lbs. butter as shown by Babcock tests. She is a full sister to the great old cow Maud Carlyle. Her test for twelve months speaks for itself. In the month ending May 30, 1903, she gave 855 lbs. milk testing 4 per cent by Babcock test, which would be equivalent to 39.93 lbs. butter; June 30, 737⅝ lbs. 3.6 per cent, 30.97 lbs. butter; July 31, 708½, 4 per cent, 33.06 lbs. butter; August 31, 694¾, 4.4 per cent, 35.66 lbs. butter; September 30, 575, 5 per cent, 33.54



Nettie Underwood

lbs. butter; October 31, 592⅝, 5.6 per cent, 38.71 lbs. butter; November 30, 492, 6.1 per cent, 35.01 lbs. butter; December 31, 476⅜, 5.8 per cent, 32.22 lbs. butter; January 31, 457½ lbs., 5.7 per cent, 30.42 lbs. butter; February 29, 441⅜ lbs., 5.6 per cent, 28.83 lbs. butter; March 31, 462½ lbs., 5.6 per cent, 30.21 lbs. butter; April 30, 501⅞ lbs., 5.16 per cent, 30.20 lbs. butter.

Or a total for the 365 days of 7045⅛ pounds of milk and 398.76 pounds of butter and only a heifer with first calf.

One other cow, Signora Bruce, is now making a splendid yearly record for a young cow. Freshening with third calf September 4th, 1903, from September 9th to May 1st, 1904, 235 days, she has given 5244 lbs. milk, making 362.78 lbs. butter by Babcock test. She promises to get well past the 400 lb. mark by the time her year is complete.

There are others in the herd which are worth extended reference. But this cannot be a list of all the animals, so we will mention only one other, the hear of the herd, Marigold Exile King, 63232, sired by Gazelle King Marigold, who is grandson of Pogis of Prospect—out of Gazelle's Fawn, whose seven day test was 25 lbs., 4 oz. and gave over 10,000 pounds in twelve months. She was the highest tested daughter of King of St. Lambert. King's dam was September Maid whose two year record was 19,717 pounds milk, making 1232 lbs. butter; She was the daughter of Exile of St. Lambert, and Exile of St. Lambert has more tested daughters than any other bull of the same breed.

From the head of the herd to the calves there is much to attract the casual observer and far more the Jersey lover.

From this herd we were driven to the Ramona herd of Geo. W. Thomas, a mile or more over the meadows. There were more Jerseys. Let us speak of them another time when we can give more particular attention to St. Lamberts. Mr. Thomas believes in St. Lamberts as the greatest strain.

Orange Propagation . . .

Contrary to the supposition of many people who find the orange growing wild in Florida and other portions of America, this fruit is not indigenous to the western hemisphere.

Seedlings of two distinct types are found in a wild state; the Citrus aurentum and the Citrus vulgaris, respectively the sweet and the sour orange, have grown wild in Florida ever since the first English speaking settlers became familiar with the country. They were, however, both introduced by the early Spanish explorers. Finding all the requirements for development supplied by nature, they have thriven so long in a state of wildness as to often pass for original occupants of the land.

Maud Carlyle

The sweet seedling constituted most of the early groves of both Florida and California. Most of the groves today, however, are the result of perpetuating some distinct type of seedling, by budding. The seedling orange, like the peach and most other seed fruits, does not perpetuate its own qualities in the next generation. The fruit of a tree need not resemble the fruit of the tree producing the seed from which it came. The planting of seed, therefore, merely assures a tree, but offers no indication of the character of the fruit that tree may produce. A few seedling trees produce fruit of exceptional excellence. Desirable fruits, originating in this way, are perpetuated by budding, that is, by transferring buds of the tree desired to the growing wood of the tree whose product it is intended to thus improve.

* * *

Stocks.—These are the trees, usually the entire roots of young trees, to which the growing buds of the kind desired are transferred. The result is a tree producing fruit with the properties of the tree from which the bud was taken. Although the fruit follows the character of the bud, the tree itself is very materially influenced by the nature of the stock on which it grows. This influence is particularly noticed in the matter of hardiness and resistance to cold. The citrus trifoliata stock greatly increases the cold-resisting power of the tree budded on it. The citrus vulgaris, when used as stock for budded trees, renders them comparatively immune to the mal de goma, or gum disease, so serious in some orange growing sections.

It is a fact particularly important that the budded tree retains the root system of the stock used. As stocks, or different species of orange trees differ very greatly in the character of their root systems, this fact gives the grower control over the nature of the roots he will develop.

The sour orange is particularly deep-rooted. The sweet orange is surface-rooted, its feeding roots seeming to develop at the expense of the tap root. The natural inference is that for dry localities, or where the natural water supply is deep, the sour stock is preferable.

* * *

Budding.—This is the form of grafting in which a single bud is inserted in the cleft bark of the tree used as a stock. The character of orange wood makes budding the nearly universal method of propagation. The fruit of the tree thus produced is true to the type from which the bud was taken, while the other characteristics follow the nature of the stock used.

The buds used must be entirely dormant, and the tree budded should be in full flow of sap.

* * *

Hybridizing.—Several of the standard varieties of oranges doubtless originated from the natural cross-fertilization of quite distinct types, preserved for commercial purposes by budding. The importance and possibilities of producing new type by the artificial hybrid trees, possessing some of the desirable traits of both parents, has but just begun to receive the attention its possibilities justify.

Professors Webber and Swingle of

(Continued on Page 607)

Conducted by PROF. A. J. COOK, Claremont, Cal

HARD-PAN.

What are we to understand is meant, when we see this word? I take it that it means a condition of the soil or subsoil that prevents the ready passage of water, and resists the passage of the roots of plants through it. In alkaline hard pan, which is often met in alkali regions, it is often thick, and composed of the salts that make the soil poisonous to plants. I have seen this white hard pan near Lancaster, in think hard layers. This is not an insoluble mass as I understand it, but is there because there is a lack of moisture or water to dissolve and carry it off.

We also have what is called the plow sole or irrigating hard pan. This is not so thick, but as it stops both water and roots, it is a sore evil in the soil. I think that this comes from the presence of a little lime in the irrigating water that acts as a cement to bind the particles of clay together. I think that this troubles more, where there is a fine clay element in the soil, that submits readily to the cementing process, without a very great amount of the cementing substance present. If we always plow or cultivate just so deep, we are pretty sure to have this in certain soils if we have water with the lime to use in our irrigation. Most of the water of our mountain streams comes through rocks with more or less of lime and so is very apt to have this cement in sufficent proportions to form this hard pan. Deep cultivation and varying the depth of cultivation will tend to ameliorate this condition of our soils. A good rain often wholly avoids it.

There is in many of our valleys a very hard stratum that has a varying depth of from a few inches to many feet—I have seen it 20 feet thick—which is so hard that it takes the pick to remove or loosen it. Of course it is utterly resistant to both roots and water. Yet this when exposed to the air becomes more friable so that it crumbles in the hand. I have submitted it for examination to our Government chemists and they find no cement present to explain its hardness.There are three cements that are common in rocks which may, any one of them, act to bring this condition of soil or earth. They are iron, lime, and some form of silica, which are soluble in certain conditions, but insoluble in others, and so are ready cements in the earth. I believe that one of these is responsible for this hard intractable condition referred to above. In any case such soils are very forbidding and one better in purchasing, stear clear of them. Unless there is a very thick soil above them or very plenty rain, they are to be avoided. Grain crops that root in shallow fashion will do fairly well with plenty of rain, but even alfalfa will require two irrigations to succeed as it is a deep rooted crop, and this forbids the passage of the roots.

THE SCUTELLISTA.

We have hoped much from the good offices of this little Chalcid fly, Scutellista cyanea. A. P. Harwood comes to me with the question, if it would not be better to get them and cover the tree on which they were liberated with a net or cheese cloth. I said no, that they would find the scale and would not go elsewhere. The instinct of all insects in egg laying is surprising, and they will almost surely find the proper place for the eggs, with no help or pains on our part. I have had several other inquiries from others the past week as to the work of these little parasites. I regret to say that I am not quite as pleased with their effectiveness as I had hoped to be. I find many black scale where they ought not to be, where the Scutellista have had a good chance to stay their ravages, were they equal to the task. We will still hope, and give them chance on the peppers, but the wise orchardist will not fail to spray, in case the Chalcids fail to do their part. I find no black scale hatched yet. They never have been so late in hatching for the ten years that I have been here, before. I think, however, that they are to come from the egg very uniformily this season as they did last. This will aid us much in either spraying or fumigation.

* * *

FENUGREEK.

N. O. G., Oakley, asks for some information regarding this new candidate for favor as a green manurial plant. It is a legume, and so is what we need in our orchards. It makes a vigorous growth from the start, and shows the nodules on the roots, even if never grown before in the same place, and so the ground must be already inoculated, with the desired bacteria, and we have to take no pains to inoculate our soil as we do with peas, in case they have never been previously grown in the same place. The supposition is that the same bacillus that forms the nodules, and draws the combined nitrogen to the common burr clover, acts or works on this new legume. It is sowed or drilled as peas are, and is said to make a surprising growth. C. C. Teague of Santa Paula has the seed and will give his opinion as one that has tried it to any who may wish to try it.

* * *

QUAIL, AND SCALE INSECTS.

H. A. Marshall of San Diego is also of the opinion that scale insects are carried by quails, as they roost in the trees. He feels that that is the way he got this pest in his orchard. I think it is hardly necessary to lay this sin to the charge of his quailship. If the quail always roost in the same trees, (and do they not?) then I should suppose that they would do no harm or little in this way as they are so decidedly a ground bird. What is the observation of others? Mr. M. is also of the opinion that every rancher should have the legal right to shoot these or any birds that are found marauding on his grounds. What say others? I suggest that Mr. Way give us at Long Beach a paper, a strong one, and it will be that if he gives it, on this matter of laws for the rightful protection of our bird-friends and then we will all come prepared to discuss it.

* * *

POISON FOR SQUIRRELS.

Several of our readers wish the formula for poisoning squirrels. I have published this before more than once, but our list of subscribers is increasing so rapidly, that we need to repeat very often, so I make no apology for doing so. I am glad to give the formula as used and recommended by E. M. Ehrhorn, Entomologist of Santa Clara Co.: One oz. strychnine, 1 oz. cyanide of potassium, ½ gallon molasses, and enough wheat to take up the liquid. It takes about 50 lbs. Enough water is added to moisten it. Mr. Ehrhorn adds that it is no use to put out poison, when grass and weeds are near by. Another reason to clean the road ways of those disfiguring weeds. In this last case carbon bisulphide must be used. The pump that is used to force the fumes into the holes is said to work well and to give satisfaction. It only remains to be said that the strychnine should be dissolved in vinegar, and the cyanide in warm water, before they are mixed with the molasses and the wheat.

* * *

COVER CROPS FOR THE ORANGE ORCHARD.

E. A. Chase, the veteran nursery man of Riverside, asks: "Will you give us your opinion as to the value of green cover crops for our orange groves? Please give your opinion of the relative merits of cow peas, Canadian field peas, or barley. A good crop of barley plowed under would look to be valuable on many kinds of land."

I think that our cover crop should be grown from September to February. I feel quite sure of this. It should be plowed in by February. There is no question, in my opinion, of the value of a good cover crop in the orchard as I have so persistantly urged for the past ten years. I would not use cow peas, though they are fine East. Here they are liable to be killed by frost, as they are beans, and so tender to cold. I would never use barley or any cereal, as the cereals add nothing to the soil, though they furnish humus, lighten the soil, and may liberate elements, otherwise unavailable. We must sow legumes, to get the best results. They give us the nitrogen from the air through the aid of the bacteria. I have seen nothing better than Canadian field peas, though fenugrek may be better. It is very wise to grow a big crop of peas in the orchard each winter. I believe that it will pay big for all to do so. I believe that this is one of the most needed reforms in our Southern California orchard practice.

WHITE AND BLACK.

Mrs. Suburbs—I suppose, now that Uncle Mose is better he is out doing a little whitewashing?

Aunt Chloe—No, he's at home doin a little black washin.' He's gibin' lil Ephrum a bath in de waash boiler in de kitching.—Life.

Kitty—They tell me Fred has proposed to you?

Bertha—Well, no; not exactly, but it amounts to that. He asked me night before last if my father was worth as much as they saw he is.—Boston Transcript.

THE BEES KNEW THEIR OWN.

An exchange says:

One of our neighbors has for a number of years past derived a very satisfactory revenue from the industry of his bees. His farm is a village lot 50 by 200 feet, in a sheltered corner of which he keeps a few colonies of bees. With the numerous families he has always lived in the most perfect harmony of purpose, and each individual seems to know and respect him, however warlike they may appear to any strange faces. When all the boxes were filled this season they were replaced with others, as is the usual custom. This operation did not commend itself to the bees, as it taxed their proverbial industry to too great an extent in a season of few flowers like the past.

Seemingly a council was held and the question of a winter's supply duly considered and soon carried into effect. Some wise bee found a small hole in the attic, where one hundred or more pounds of honey was stored. At once all the forces of the colonies were summoned, and with determination that knows no failure, they transferred every particle of the honey from the garret to the new boxes in the hives. A few days ago, when our bee farmer went to the garret for a supply to fill an order he found he had been robbed. No, it was not robbery. The bees got back what had been taken from them.

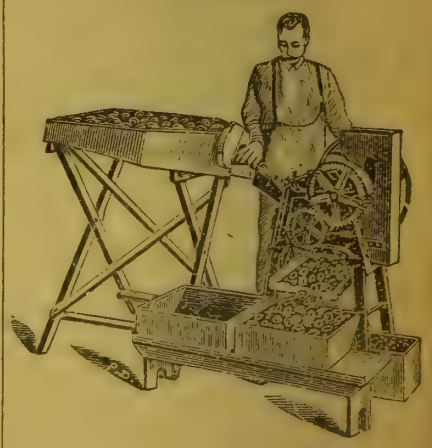
"ITS PENNY WISE"

Policy to set out a good tree, costing good money and then let the sun burn the bark, or the rabbits gnaw it, when for $1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Wrie for free sample of the wrap. Yucca Mfg. Co., 450 Santa Fe ave., Los Angeles.

THE "BRIGGS" NEW IMPROVED

FRUIT PITTING MACHINE

MODEL 1904



Is Practical In All Its Workings

It cuts the fruit entirely round and pits it more carefully than can be done by hand.

The work is done with wonderful rapidity, six pits being extracted at each revolution of the wheel, whether the fruit be large free-stone peaches or plums of the largest size. It is capable of handling

Two Tons of Peaches, and One Ton of Apricots Per Hour

Thousands of tons of apricots have been satisfactorily cut and pitted with these machines.

It Does Not Push the Pit Through the Fruit

But holds the pit firm while the fruit is carefully removed without being bruised. The pits are delivered separate from the fruit.

The Advantage of This Machine is Very Apparent

As one machine and one man practically represent fifteen or eighteen cutters. This perfect machine, which is guaranteed, is the result of 12 years of experimenting and improving. These machines will be rented for the fruit season for fifty dollars each; for sale at $150 f. o. b. Los Angeles. Address

The BRIGGS-KNIGHT Mf'g Co.

336 E. Second St., LOS ANGELES, CAL.

California Horticulturally

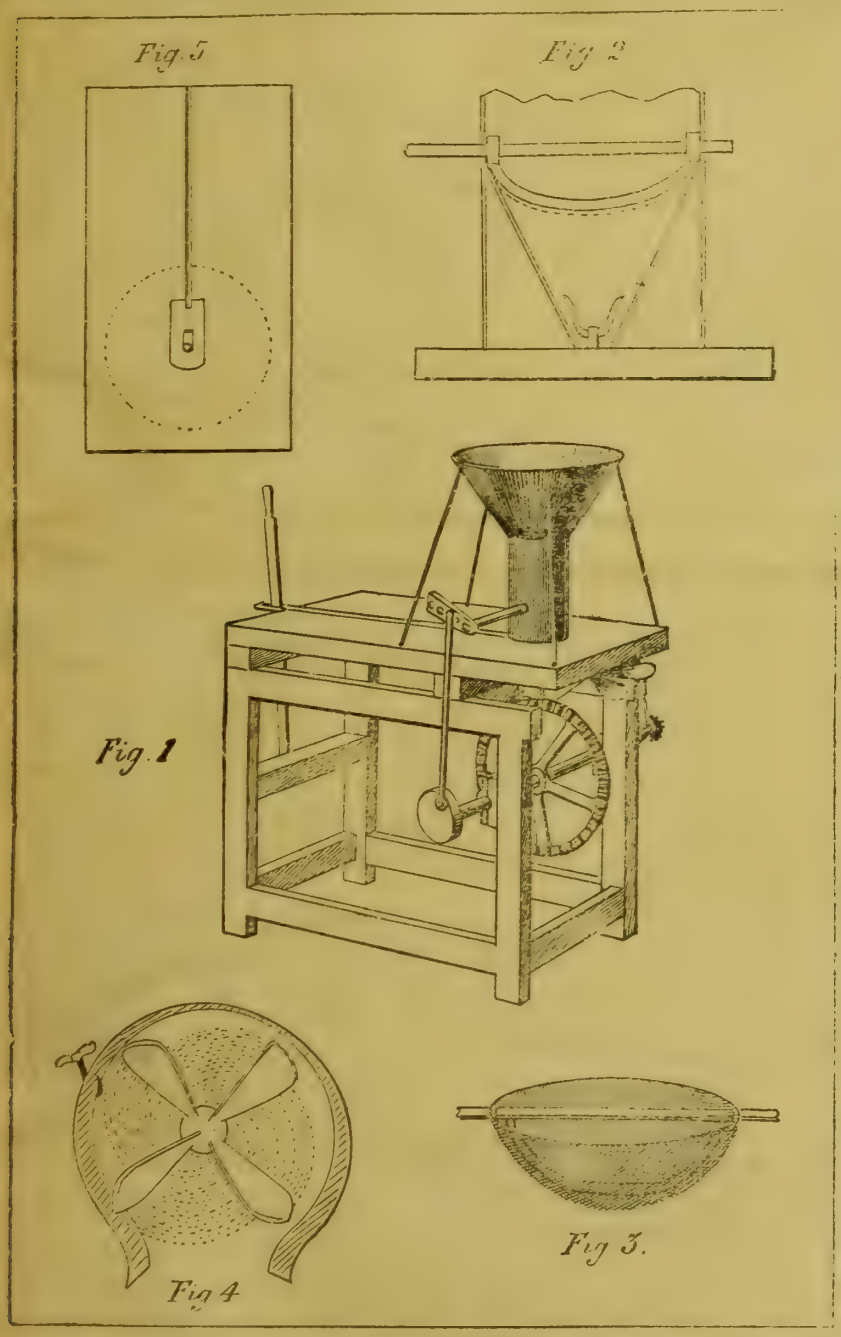
BY JOHN ISAAC, SACRAMENTO, CAL.

TO SULPHUR ON A LARGE SCALE.

A great many complaints are being made about the spread of the red spider in destructive numbers in very many of the almond, prune and citrus orchards of the State, and applications for remedies are often made to this office. The most effective means of holding this pest in check, is by the use of dry sulphur. In applying this it should be used very early in the morning, before sunrise if possible. During the night there is always a greater or lesser amount of moisture gathers on the foliage, and when the dry sulphur falls on this, it adheres to the leaves and is not blown off as readily as if applied during the day, when the foliage is dry. The sulphur may be applied by putting it in a bag made of cheese-cloth, which is fastened on the end of a pole, and shaken over the trees. On small trees it is sometimes blown out by means of a common hand bellows arranged for the purpose, but these methods are too cumbersome for use on a large scale. Machines have been invented for the purpose. One of the simplest and most effective of these is arranged with a common wheat seeder, and is the invention of Mr. Geo. Ditzler, of Chico, who has found it very effective in orchards under his control. We give an illustration of this, for which we are indebted to the Horticultural Commissioner, for the benefit of our readers, who may wish to try a machine of the kind for their own use.

Fig. (1) represents the machine complete. Fig. (2) represents the use of the screen, adjustor and funnel. Fig. (3) represents the screen. Fig. (4) represents movable disc to regulate direction of cast. Fig. (5) represents slide to regulate quantity of sulphur.

The machine is attached to the wagon wheels, as in the case of wheat seeders, and driven between alternate rows of trees. It throws a dense, fine cloud of sulphur into the air and thoroughly covers all the trees on every side. The work can be done with this machine on a large scale, very much more effectively and cheaply than by any other means which we know of.



There is a great deal of attention being turned to dry spraying or the application of insecticides in the dry form, instead of in solution. This method of using them is more advantageous where they can be effectively applied; and there is no question but that this machine can also be used for this purpose as well as for sulphuring.

* * *

Probably no one in Southern California has paid closer attention to, or is better informed on, the subject of parasites, than Dr. W. B. Wall, of Santa Ana. I recently received a communication from him, in which he calls my attention to the work of the Golden Chalcid fly on the red scale (not the yellow) in the orange orchards in his neighborhood, where spraying and fumigating have not been done for two years and there this little fly has cleaned out the red scale. This is certainly encouranging information, and while we have always known that the Golden Chalcid was the one effective check of the yellow scale, it was not known to have done effective work on the red. It may be that it has adapted its tastes to this species and is now increasing in sufficient numbers, at least in the Santa Ana district, to do effective work. Some twenty years ago the yellow scale had obtained a foothold in the San Gabriel valley, and some other sections of Southern California, and threatened to be as destructive a pest as the red scale has ever proved. This little parasite, however, took to the species, increased with great rapidity, and very soon checked its increase to that extent that it ceased to be a troublesome pest. It may be that, having cleansed out its favorite food, or having reduced it to such an extent, that it is insufficient the little parasite is now adapting itself to the red scale, and may prove, as it has done in the case of the yellow, the nemesis of this troublesome and expensive pest of our orange orchards. At the present time, the worst scale pest that we have to contend with in our State, is the purple, which has obtained a strong footing in many of the citrus sections of Southern California, and for which we have, as yet, found no effective enemy. In his search for parasites for this State, Mr. Compere has received instructions to pay special attention to this pest and it is possible that we may yet find something that will check its spread.

* * *

HIGH PRICES FOR PEACHES.

The great scarcity in the peach crop in Northern California is causing a commotion among the canners, who are going to have much difficulty in filling their contracts. At Anderson, in Shasta county, clings are now being contracted for at $35.00 and it is probable that there will be a very material advance upon this before the season is over.

* * *

TOO MUCH WATER COSTLY.

It is a question, which is the worst, too much water, or too little. In many of the arid sections of the State, water is secured at a great expense for the purpose of making the soil productive; but in these sections, when water is secured crops are certain. In very many of the northern counties there has been a great surplusage of water this season, very many of the most productive sections are entirely under water, and no crops, whatever, unless it be fish, will be produced. Drainage in those sections where it is practical, is even more expensive than irrigation, where that is necessary. Very much of the most fertile land in Sacramento County, has been under water for months, hundreds of acres of orchards have been drowned out, crops have been entirely ruined, and in many sections, the land has been rendered valueless. The big break in the Sacramento River, through which the water reached these lands, has finally been closed, and its cost now becomes a lien on the property, some of which will be assessed as high as $47.00 an acre for the work done. When to this is added the fact that the land in many sections is practically ruined, and in any event can not be made productive the present season, it will readily be seen that too much water may be ever worse than too little.

TREE SPRAY

CHEAPEST AND BEST

Insecticide

ON THE MARKET FOR USE ON

Citrus and Deciduous Trees

ENDORSED BY THE LEADING FRUIT GROWERS OF SOUTHERN CALIFORNIA

Lubricating Oils

SUPERIOR QUALITY FOR ALL KINDS OF MACHINERY
CUP GREASES AND COMPOUNDS

Axle Grease
Asphaltum

Southern Refining Company

P. O. BOX 596, STA. C LOS ANGELES, CAL.

Communications and Queries . . .

We are in receipt of a communication from our good friend J. H. Reed, of Riverside, regarding the oxygen treatment of milk fever, and saying he has failed to see reference to it in the Cultivator. The Cultivator referred to it once, but it has not received the attention it deserves and we will be glad indeed to give place to Mr. Reed's communication next week, it being too late for this issue.

MORE ABOUT RESERVOIR BUILDING.

Editor Cultivator: On page 585 of C. C., June 17, is an inquiry from Edgar Leavitt asking about a reservoir. I think his best way is to build of cement an eight-inch wall with two-inch batter, five feet high, inclosing an area of 45x 60 feet; will give him a 101.250 gallon capacity. If he knows that it takes 7½ gallons to the cubic foot he can easily compute for any number of gallons. Frank Walters has such a reservoir in East Anaheim.—L. S. Fletcher, Anaheim.

PREVENT THE CHANGE.

Editor Cultivator: By an item in the last Cultivator I notice that Mr. Alexander Craw may accept a position at Hawaii. I wish the Cultivator would ascertain, if possible, if not already advised, if there is any good foundation for such a report, and advise its readers. If there is any danger of his leaving California because of a better salary, I'm sure such a general protest would reach the authorities as would prevent the change. The tremendous fruit interests of California, constantly jeopardized by persistent insect enemies, new and old, can not afford to lose this man, who has so efficiently served us so many years, and who not only knows better how to combat the pests we now have, but how to guard against the introduction of others, than any other man could without his training, experience and watchfulness, in addition to his knowledge of local conditions. A single mistake or oversight by a new man might easily cost the State an hundredfold more than an increased salary. If there is any prospect of a change the horticulturists of the State should be made aware of it in time to express their wishes concerning it. We have just escaped the misfortune of losing one of the best men at the agricultural college of the University, Prof. Steubenrauch, Assistant Horticulturist in charge of sub-stations. The Department of Agriculture at Washington is constantly on the lookout for the best available men for its constantly increasing work, and it was only by timely effort by those who appreciated Mr. S.'s value to California that prevented his acceptance of a proffered position at Washington. If the Hawaiian government secures Mr. Craw, I am satisfied it will be because the horticulturists of the State were not advised of the danger till it was too late to be heard from.—J. H. Reed, Riverside.

DISEASED BERRIES.

Mr. Bruskey, of Anaheim, says there is some disease or insect that is blighting his Loganberries and strawberries. His Loganberries appeared thrifty and healthy until they leaved out and then died back to the roots. The roots of his strawberry plants die and become dried up until the whole plant is affected. His young walnut trees in the same ground, have all died.

Can you suggest a cause and remedy?

Mr. T. B. Lindley, Orange, Cal., asks if any one has tried raising the Texas strawberry in Southern California, and with what success? What are its keeping and shipping qualities? His strawberries are also affected with a kind of blight that causes malformation of the berry and also destroys the new growth. What is remedy?

The above was referred to W. M. Gray, the Gardena berry grower, and he writes:

Editor Cultivator: I was unable to answer your inquiry of June 13th in time for this week's issue. The disease or insects infecting the Logan and raspberry will, I think, be traced to the root—will also affect the walnut tree.

It is certainly an insect working on the strawberry vines. There are over 40 species of insects said to work on the strawberry. I have had but little time to investigate the trouble this year.

I have grown the Texas strawberry in experimental way; found it a very prolific berry, fairly good in shipping qualities; better adapted to inland sections than near coast; is doing well in Arizona, I am informed. Yours truly, W. M. Gray.

SPRAY DID NOT INJURE.

Last week we had inquiry in Cultivator regarding dropping of apples following spraying with Paris green, and we remarked that we believed the spray was not the cause of the drop. The matter was referred to Prof. Woodworth of the State University, who replied as follows:

Editor Cultivator:—Replying to your letter of the 15th I will say that I do not think the spraying done by your correspondent had anything to do with the dropping of the fruit. A rain or spray during the time the blossoms are open has more or less tendency to prevent fertilization and cause the dropping of the young fruit, but in this case the spraying was done according to this account after the petals had fallen and therefore not liable to cause dropping in this way; moreover, there is no likelihood that the Paris green had anything to do with the dropping, for while arsenic is liable to injure blossoms, if incorrectly applied, it is just as fatal, or more so, to the foliage and nothing is said of any injury to foliage. We know very little about the cause of the dropping of fruit and only know that certain seasons the young fruit drops much more completely than at other seasons, giving us light instead of heavy crops. This spring has been pretty bad for apples and the estimated crop is the Pajaro valley is much smaller than it has been for many years. Very truly yours, C. W. Woodworth, Berkeley.

EDIBLE FROGS.

Editor Cultivator: Can you tell me where I can get information regarding the edible frog—the bull frog, I believe it is called. I wish to know whether it would be practicable to stock my reservoir with them, and if so, where they may be procured. Any information would be gratefully received. I would also be pleased to know what kind of fish it would be best to raise here. My reservoir is 100 feet square and 5 feet deep—cemented.—Paul G. Ward, San Jacinto.

The Cultivator staff has no one to answer the above, but possilby some of our readers can send in the desired information. We imagine, however, that while fish might do well in the cement reservoir, if fed, that the frog would not find the place so congenial as a pond with earth bottom.

SELF MILKER.

Regarding the cow which milks herself, tongue splitting is most effective, and, excepting for the sentiment of it, probably not so cruel as at first thought. Regarding it a Pasadena subscriber writes:

Editor Cultivator:—To keep a cow from self-milking, split her tongue about three inches and she will not milk herself. I have tried it and the cow would go to eating right away as if nothing had happened and never make any difference in feed or milk. It is a much less severe operation than dehorning and can be done just as quickly.—N. A. Neer, Pasadena.

ROOT BORER REMEDY.

J. R. Rodeck, of Campbell, and a representative of the Campbell Fruit Growers' Union, was in Southern California during last week and reported to the Cultivator of the prosperous conditions which prevail in the famous Santa Clara valley. As yet it is entirely too early to predict with any certainty the coming crop of prunes. Present indications are that it will be a successful year.

Speaking of the borer, Mr. Rodeck said that many are now using the crude oil remedy, though some have been damaged by it. One of the old, standby formulas largely used about Campbell as given by Mr. Rodeck is as follows: To make 100 gallons, use: Lime, 50 lbs.; whale oil soap, 25 lbs.; gas tar, 1 gal.; salt, 2 lbs.; flour, 25 lbs.; sulphur, 25 lbs.; water, q. s. Slake the lime in water, add soap and tar while warm, mix flour and sulphur with cold water, then add, stirring all. Paint trees in spring from several inches below surface, as live roots branch out, to a foot above the surface. When dry, fill back dirt.

Of course this should be done early in the spring, but is given now as it is always of interest to know these remedies. Meantime, if the crude oil proves effective and safe, it will certainly be much cheaper. Mr. Rodeck says this is an excellent preventative to injury from gophers, as they will not touch it.

The weather and crop conditions for the week ending June 20 are reported as follows by Section Director McAdie of the Climate and Crop Service, San Francisco.

General Summary.—The weather was cooler than during the preceding week and conditions were more favorable for crops than for several weeks. The winds were mostly from the south and west. Fogs were frequent in the coast districts.

Grain made considerable improvement under the favorable conditions, but the long period of dry north winds materially lessened the crop in most sections. Harvest is in progress on barley and oats, and wheat harvest has commenced in some places. The grain is generally of fair quality, but the yield is much below early expectations. Haying continues and baling is in progress; the yield is unusually heavy in some sections and the quality is very good. Hops in the overflowed districts near Sacramento will be a failure, but in Sonoma county the crop is reported in good condition, with prospects of a large yield. The Edwards break, which occurred on February 26, was closed June 16th, and some of the overflowed land will be planted to beans and potatoes. Beans and sugar beets are doing well, especially on irrigated lands. Pasturage is scarce.

Grapes in some sections were slightly damaged by heat during the preceding week, but the outlook is still good for a large crop in all parts of the State. Apricot picking and canning are in progress; the yield is light, but the fruit is of good quality. Other deciduous fruits are rapidly maturing and are quite plentiful in the markets, but the yield of most varieties will be light. Citrus orchards are in good condition and are being liberally irrigated in the south.

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Crimson Winter Rhubarb
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CITRUS FRUITS

ORANGE TREE PROPAGATION.

(Continued from first page.)

the U. S. Department of Agriculture, have succeeded in crossing the sweet orange with the citrus trifoliata, the deciduous inedible orange of Japan, which is hardy as far north as Pennsylvania. The result has already been the production of several edible fruits much more hardy than any orange. One of these, the Tangelo, bids fair to become prominent as a substitute for lemons and limes, and producible far north of any region of orange culture. The particular object aimed at in this work has been the development of a commercial orange with the pronounced hardiness of its deciduous parent. The results already attained indicate that this object is quite within the range of probability and that hybridizing must hereafter be recognized as an accepted method of orange propagation.

In passing, it is worthy of note that hardiness is materially influenced by the character and method of fertilizing the trees. The use of mineral fertilizers only, for the late application, will accomplish much toward this end. Potash is particularly useful because of its tendency to ripen and harden the wood.

As only mature wood is adapted to budding purposes, this same fact should be kept in mind in propagating and selecting wood for this purpose. As ammonia tends in the opposite direction, makes a rank growth and unripe wood, it should be excluded from the fertilizer application next preceding the time when the tree is to be subjected to cold, or is to be drawn on for propagating purposes.—H. E. Stockbridge.

A NEW ASSOCIATION.

The Redlands Golden Orange Association met Monday and elected officers as follows: C. L. Clock, President; I. L. Bond, Vice President; James S. Clark, Secretary; First National Bank, Treasurer. The other members of the directorate are A. G. Hubbard, W. L. Olmstead, C. J. Creighton, W. O. Harris, C. B. Hoadley, C. M. Brown will act as business manager for the Association. The plan is to include orange growers in the Association and handle only the fruit of the stockholders. The capitalization is $25,000 and the shares are of $100 per value each. Packing and selling will be on the mutual plan, on the same lines as those of the Redlands Orange Growers' Association, and sales will be on the f. o. b. plan.—Review.

MODEL WALNUT ORCHARD.

Mr. Neff's twelve-year-old walnut orchard southwest of Los Angeles, is attracting considerable attention among growers, not only on account of its fine appearance but because of its large yield of nuts. The crop in many localities is light, not nearly so large as estimates a month ago indicated. While other orchards have fair crops Mr. Neff's trees are fairly outdoing themselves, some of the trees having, it is estimated, fully 150 pounds of nuts.

Walnut growers say when nuts form in clusters of twos and threes the crop will be heavy. Trees in this orchard not only have clusters of three nuts upon a stem, but four and even five well formed nuts.

FROM A BUSINESS STANDPOINT

BY J. W. JEFFREY, LOS ANGELES

CONSISTENCY.

The failure of the wholesale cabbage market in Southern California should be investigated by those people who are now in the business of regulating and disciplining the orange marketing agency that also failed in part to secure profitable prices for the orange crop. The vegetable growers thought they had a strong organization and that it had conducted the selling of its products in the very best manner possible. But somehow cabbage took a fall, and it is now said to be so low in price that it will not bring enough money in the markets to pay for cutting. Is it possible that such a thing can occur anywhere outside the citrus fruit business? It is now in order to hold "mass meetings" of vegetable growers, to denounce the administration wherever and whoever it is, and to bring forward a dozen different methods of selling cabbage, so the growers will get profitable returns, no matter how many cabbages may be grown elsewhere or how little the demand may be. Of course, we have little knowledge of the cabbage business, and, in consequence, would be excellent authority upon plans of improvement. Is it not a fact that, at certain times, cabbages, oranges, potatoes, peaches, prunes and raisins sell somewhat slowly and often at a loss, no matter what selling means may be employed? Ponder all these things, for a day of reckoning is coming to those who have prophesied in many tongues as to what the future would bring forth were their theories of marketing adopted. When disorganization again holds sway next September, a few months of its headless, purposeless, planless mis administration will cause every man who has not propounded some foolish marketing theory to be considered greater than a mass meeting; every man who has not denounced somebody or some policy to be held more honorable than an investigating committee.

There are people who have not been carried away by clamor who hold that the distribution of oranges by the Agency for the last sixty days has never before been equalled in thoroughness and effect. It is true ,this period of successful operation is co-incident with the return of normal conditions, but the critics of all that is in co-operation, and central administration do not attach any significance whatever to a little thing like a return to the average conditions that have prevailed heretofore in the orange markets. Some one must be held accountable for the freezing over of the Great Lakes last winter, and the general reign of old Boreas all over the northern two-thirds of the continent, and why not punish the men who were delegated to sell the oranges but neglected to provide above-zero weather during a large portion of last winter, or forgot to prohibit the growing of Florida oranges and winter apples. It may be by mere chance that the same agency which failed to get good prices when the weather was too cold to move the fruit, is now securing first-class prices and giving perfect distributing service.

Will the Exchange be weaker or stronger next fall? that is the query. We are told that the Exchange should have been held off another year before considering an alliance with the Citrus Union. One of the heaviest growers in San Bernardino county has stated that hundreds of growers were only too ready to join the Exchange when they were shut out by the merger. We do not need to be told that, we all know it. But what inconsistency in these men's attitude. One year ago they were fairly aching to get in under the administration of the president of the Southern California Fruit Exchange; now they are roundly denouncing the president of the California Fruit Agency and questioning the same business capacity they were so anxious to avail themselves of one year ago. No comment is necessary upon this strange inconsistency, and it is only one of many abroad this summer. But one thing is certain, the citrus fruit growers who are responsible for the general disorganization will sit upon the stool of repentance when they discover that the very fickleness of public opinion, upon which they depended to destroy co-operation, will turn the public against those who are undermining organization in the guise of some good purpose. One year of disorganization, with the same conditions that have prevailed this year in the orange markets, will fill the disgruntled, fault-finding, and sometimes slanderous, individuals with remorse so keen that they will want to hide themselves from public gaze. One year will show that the redeemers of the citrus fruit industry are not of those who only take an occasional interest in orange marketing problems.

But this discussion does not sell cabbage. We hope the regulators will see that cabbage have a fair shake next season.

SOMEWHAT MIXED.

Some of our country papers get slightly mixed on entomological matters. I notice in a northern paper a statement to the effect that the Comys fusca has been distributed in sections by the Deputy State Horticultural Commissioner, Mr. Craw. The editor then goes on to state that "this insect came from China, the original home of the brown apricot scale, and so it was that the commisioner sent abroad by the State legislature, discovered the scale's natural enemy." This insect never came from China. China is not the original home of the brown apricot scale. No commissioner was ever sent to discover it. But with these exceptions the item is correct.

THE JUNE AMERICAN BOY.

The June American Boy is replete with matter of interest to wide awake boys, for in addition to the continuation of Kirk Munroe's celebrated story "The Blue Dragon," and W. J. Roe's "Camps and Campaigns of Washington," there are scores of articles long and short appealing directly to American youth. The American Boy is published at Detroit, Michigan.

A Hickcox, of Tropico, brings us diseased or blighted raspberry vines, which is a serious factor with many berry growers this year. The vines, while thrifty and with plenty of water in soil, will blight and the leaves and young fruit wither and the vines look as if through a fire. The specimens have been sent away for information. Meantime, have our raspberry growers any information or remedy?

Appearances have much to do with the marketing of live stock.

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For living a white life.
For doing your level best.
For your faith in humanity.
For being kind to the poor.
For looking before leaping.
For hearing before judging.
For being candid and frank.
For thinking before speaking.
For harboring clean thoughts.
For discounting the talebearer.
For standing by your principles.
For stopping your ears to gossip.
For the influence of high motives.
For being as courteous as a duke.
For bridling a slanderous tongue.
For being generous with an enemy.
For being square in business deals.
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For giving an unfortunate fellow a lift.
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In order to close out some stock that we must move this season, we are making SPECIAL PRICES. Write us your wants and we will give you a price that will please you.
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GOODS CLOTH NETTING WORK BARB WIRE
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WEST COAST WIRE & IRON WORKS
19 FREMONT ST. SAN FRANCISCO

BY ERNEST BRAUNTON, IONE, CAL.

JAPANESE FORESTRY.

The people of Japan have kept so abreast of the times in forestration and reforestration, all planted so naturally, that present day students of their flora are unable to determine which are natural forests, or distinct from those planted by man. Prof. C. S. Sargent, who has made an exhaustive study of Japanese plant life, says:

"In a country like Japan, which has been densely populated for centuries, and in which tree planting has been a recognized industry for more than a thousand years, it is not easy to determine whether a forest has been planted by man or not."

* * *

ELEPHANT EAR.

P. J. F. wishes to know when to move bulbs of this plant (Colocasia antiquorum) and what soil and treatment are best.

Move about the first of April, or before, if you notice any new growth starting. Plant in very rich soil and after plants are well started, give them an abundance of water.

* * *

ALL SUMMER BLOOMS.

"Subscriber," Los Angeles, is dissatisfied with so many summer-flowering plants because they have such a short blooming period. As she does not care for color, but wants all summer effects, she should try Coreopsis lanceolata, Gaillardia grandiflor, petunias and the Shasta daisy, or a closely allied plant, Pyrethrum vliginosum.

* * *

BULBS.

Mrs. W. J. G.—Bulbs like the hyacinths are best moved any time after tops have dried up (after blooming period) and before they start to grow in the autumn. If taken up now, they should be stored in a cool, dry place, in soil or sand that has a little moisture still remaining, so that bulb and soil will gradually dry out together, or as the gardener calls it, "cure." If you do not wish to move them now, allow the soil they are in to get as dry as possible and move bulbs within a few days after the first rain this autumn or winter. Tulips do well in but few places with us and those places are in the coast region. You are too far from the coast, though if you have a very cool, damp spot, like the north side of a large store building, you may have some success, but our air is too dry.

* * *

MOVING EVERGREENS.

"Novice," Pasadena.—The best time to move evergreens is in very early spring, before any sign of new growth is manifest. Those who understand the matter thoroughly will not hesitate in case plenty of soil can be taken, to move them at any season; yet, if you can't move in early spring it is best to wait until late summer—after the spring growth has ripened or become dark-colored like the rest of the foliage.

* * *

NEW POT FERNS.

It almost seems as though the popular Boston fern would have to give way to later creations, after being a popular idol for a longer time than any of its predecessors. The "Ostrich Plume," or Pierson fern, and the Scott fern, are both sports from the Boston variety and each seems to be an improvement on the parent stock. These plants are known to the nursery trade as Nephrolepis Piersoni and N. Scottii and unless you get one or both pretty soon you will be altogether "out of style" in the fern world.

* * *

Editor Cultivator:—My sweet pea vines are covered with a floury or mildewy substance. What is it and what will prevent?

Sweet peas are affected with mildew. Foliage of such a character that sprays do not readily adhere, therefore would try sulphur dusted on foliage when wet with dew. Know of no preventive.

BOOM IN PEONIES.

The old-fashioned "Piney" is now having a great boom in the East. Some of the newer "creations" are commanding large prices and nurserymen and florists are scouring the country for stock. American Gardening recently gave two full issues to this flower. From it we give some of their reasons for the "world wide boom in the Peony:"

Some of the Reasons.—1. It is one of the easiest flowers to handle. There is strong vitality stored up in the root, so that it bears transportation without trouble. People often presume too much on this. I have had them come badly wilted, but there was no trouble in restoring them.

2. It is a plant of such wonderful vigor that on an average it doubles its buds nearly every year. An investment that pays 50 to 100 per cent is a good one. You think it is awful to pay $2.50 for a single root, and yet if it should double every year, in ten years you would have 1000 plants.

3. With the exception of a few ants in some localities, it is the healthiest plant in the world; rarely troubled by disease, fungus or insects.

4. They are not injured by cold, or heat, or hail, which pounds other things to ribbons. Sirocco and blizzard are alike to them. Against all dangers which affect other shrubs and plants, they are iron-clad.

5. They respond to the highest culture, amply repaying any extra care, and they are as patient as a Rocky Mountain donkey with neglect and poor fare. They will do all they can when choked with weeds and grass and pinched with drouth. Near me, while I write, is a clump in grass and hard ground, which has bloomed twenty years without care.

6. There are vast possibilities of development before them. The numerous families from different parts of the world have been crossed, and the finest of these are being crossed again. Compare the glowing splendor of some of the newer kinds with those we saw in childhood, and you are conscious that before us is a wide field for expansion.

9. There are not on earth more fragrant or attractive flowers, especially when massed. They rival the roses in elegance and fragrance, and in our own climate they are far more hardy and satisfactory. Once well planted and cared for you can let them remain for years.

The Name—(it is said) was given from a Greek physician, Paeon, who first used the root for medicine. He was probably a mythical personage, for he dates back to the siege of Troy. We well remember when our mothers sought the roots from their neighbors when we were ill. In mediaeval days, when simple things were so potent and faith was so strong, the Peony was known as the "gallant herb of the sun," and was taken to prevent the nightmare. Infused in sack and drank before and after the new moon, it was sure to heal weakness in the back. If children were sick, hang a piece of root around the neck.

HOW TO GET RID OF DRUDGERY.

Three things Ruskin considered necessary to that happiness in work which is the right as well as the privilege of every human being: "They" (men and women) "must be fit for it; they must not do too much of it, and they must have a sense of success in it—not a doubtful sense, such as needs some testimony of other people for its confirmation, but a sure sense, or, rather, knowledge, that so much work has been done well, and fruitfully done, whatever the world may say or think about it."

No man is original, prolific or strong unless his heart gives full consent to what he is doing, and he feels a glow of content and satisfaction in every day's well-done work.

If you are in love with your work, and dead in earnest in your efforts to do it ts well as it can be done; if you are so enthusiastic about it that you fairly begrudge the time taken from it for your meals and recreation you will never be bored by it; the drudgery which others feel you will never know.

A fond mother feels no sense of drudgery in her housework, in the infinite details of sweeping, dusting, cooking, mending, and making for her loved ones. The long days and nights of care and toil spent ministering to the crippled, deaf and dumb, or invalid child, have never a thought of unwilling labor in them.

What are years of waiting and hardship and disappointment, and incessant toil to an inspired artist? What cares the writer whose heart is in his work for money or fame compared with the joy of creation? What are long courses of seeming drudgery to the poor student working his way through college, if his heart is aflame with desire for knowledge, and his soul is athirst for wisdom? What does it matter how long a man works if his work, even humble, is a credit to him?

In the production of the best work, the co-operation of heart and head is necessary. Its quantity as well as quality will be measured by the amount of love that is put into it.

"He loved labor for its own sake," said Macaulay of Frederick the Great. "His exertions were such as were hardly to be expected from a human body or a human mind."—Success.

We do not believe that a four-inch collar, a red necktie and a cane ever helps a fellow along in trying to win the love of a sensible girl.

TOO FERVENT.

Poet: I left a poem here last week entitled "The Gallant Fireman."

Editor: Let me see. H'm, very realistic poem, wasn't it?

Poet: Yes, rather.

Editor: I'm afraid it went to the fire.—Public Ledger.

MORE TRUTH THAN POETRY.

Johnny Alfalfa: Pa, what's an Injun gift? Pa: Why, something that one gives away and then takes back again. Johnny: Oh, like the runty calves you give me if I'll feed 'em, and then you sell 'em when they get big.—Field and Farm.

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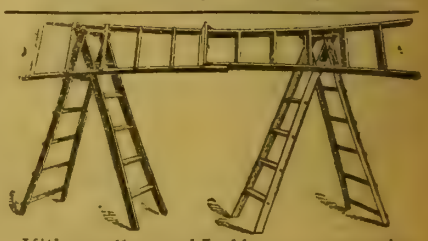

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General Agriculture

MEASURING HAY IN STACKS.

Editor Cultivator: Noticing your answer regarding measurement of hay in stack, allow me to say that I think your estimate of 400 cubic feet per ton is low for alfalfa.

Where the hay is fine and the stack is 12 feet or more in height and has been standing at least six months, 425 cubic feet will usually make a ton. If the hay is a little coarse or the stack is less than 10 feet in height, it will usually require about 450 cubic feet to make a ton. In the above case, where the stack is alfalfa, and less than 10 feet high, unless it is very fine or has been stacked quite green, I should say it would require at least 475 cubic feet to make a ton.

Some of the factors affecting the weight of a cubic foot of hay are height of stack, length of time the stack has been standing, condition of hay, as regards moisture at time of stacking, coarseness of the hay and its freedom from coarse-stemmed weeds. —W. M.

BLACKBERRY RUST.

I. R. writes from Orange enclosing a diseased blackberry leaf, and asks what the disease is and what the cure. It is the well known orange rust of blackberries and raspberries, being quite common, but usually not very destructive. Unfortunately no remedy has been discovered, as is true of most rusts. Destruction of the infected plants is the only recourse. Our correspondent should uproot and burn all plants upon which the rust shows, in order to prevent it spreading to other plants. Every vestige of the diseased plants should be destroyed, no remedy being known. This is the only procedure that can be advised.—A. J. McClatchie.

WHEAT PRODUCTION DECLINING.

California ships less wheat than it did ten years ago and is progressively retiring from the Central American and Oriental export trade, where once it was a dominant factor. Oregon and Washington, which in earlier times were quite secondary to California, now make the leading figure in general shipment and practically control the great Oriental flour trade.

The decline of the wheat industry in California would be serious excepting for the fact that where the State has lost in grain production we have gained in many other respects. In the early days when our grain exporting business was at its maximum districts like Santa Clara Valley, the Napa Valley and nearly the whole of the great Sacramento and San Joaquin Valleys were vast grain fields. Many of those districts now contribute nothing to our grain surplus, while others contribute much less than formerly.

But while the wheat product is thus reduced, other forms of industry have arisen to compensate for the loss a dozen times over. Santa Clara Valley planted to trees and vines yields a hundred fold as compared with Santa Clara Valley devoted to grain growing. The same is true of other parts of the State. Sacramento County is five times richer and more productive than it was in the days when it was little more than a grain field; and it is the same wherever the relatively crude industry of wheat farming has been replaced by more varied and more productive forms of domestic industry.

Perhaps the most recent decline in the grain production of California is due to the introduction of alfalfa with the development of the dairying industry. We had a few days ago a statement showing that the annual dairying production of California aggregates upwards of $20,000,000 a year in value, and much of the land now used with great profit as the basis of this large production was formerly devoted to grain growing.—Sacramento Union.

SIGN THE CONTRACT.

President Madsen of the Raisin Association has sent another appeal to members of the association to remain true to their own best interests and the best interests of the whole industry and not only sign the new contract, which is now presented, but to sign it at once. The contracts are to be signed by August 15 or the entire matter is to be dropped. If two months is not sufficient for the growers to make up their minds, they never will make up their minds. Notwithstanding great numbers will remain out till the last moment, thus increasing the expense and the perplexity of the management.

From Mr. Madsen's address we quote:

"We ask you, as men, to give your confidence to the board of directors, and we may be able to get you a fair price for your raisins this year and put new confidence into the trade.

"I cannot put it strong enough to you, to sign immediately and return the contracts—do not wait to see what the other fellow is going to do or we may get left. If we do not have the percentage by 6 p. m., August 15th, your contract will be returned and the association is off, and let me tell you it is not going to be 75 per cent on the inside and about 25 per cent on the outside, but the percentage will be what the directors consider sufficient to control the situation positively. You probably do not realize what we are 'up against'—tied hand and foot, the packers having a rope around our neck and the bankers one around our feet, both pulling, and the growers kicking us—not a very pleasant position to be in, I assure you. Now, growers quit kicking and we might slip the noose and untie our hands so that we can strike out. Stand with us, every mother's son of you, and we will build this thing up where it belongs.

"Do not people on the outside know that you are cutting your own throat; if the association goes to pieces, what you will get for your raisins? Very little. You will take your chances with the rest of us and lose money. Let us all get in and work together in harmony, inside and outside, and we will all make money. Even with a strong association they might get a little more than the people on the inside —say ¼c or ½c, but if inside we probably would get 1c more. Are not the men on the outside the losers?

THE CALIFORNIA POLYTECHNIC SCHOOL.

The first year of the California Polytechnic School which is now closing, has proven a most successful one. The best proof of the success of any school is that the pupils are satisfied with what they are getting and that they find the work of the school of increasing interest. Such is eminently true of the institution named. The students are of mature age, averaging about eighteen years, and their opinion is therefore to be credited.

In agriculture the instruction has been in the field and class-room. The latter has consisted of plant study, elementary chemistry, study of soils, their foundation and character and agricultural arithmetic. In the field the students have pruned vines and fruit trees, planted forest trees, made applications of fertilizers and done other interesting things that may be found on a California ranch.

In mechanics, the students have done much carpenter work. They have built many pieces of furniture for the school, including book-cases, picture frames, drawing-board cabinets and the like. Out-of-doors they have constructed a poultry house 12x20 feet, and yard for it 40x150 feet. At the present writing they are preparing the frame for an iron working shop 40x100 feet, which is to be ready to give instruction in next September. This shop has a truss roof of 40-foot span and gives the students excellent practice in building construction.

Do you know what the California Polytechnic School is? It is a State institution located in San Luis Obispo county, to give instruction in agriculture, mechanics, engineering, domestic science and such other subjects as will fit the students for the non-professional walks of life. It takes students from the grammar schools, providing they are fifteen years of age.

Home-made Alcohol.—A government report says:

"There were 6537 distilleries in operation in Germany in 1901-02; the output of pure alcohol was 93,965,940 gallons. The production of the potato distilleries amounted to 78 per cent of the total production of alcohol in the Empire. The quantity of potatoes used amounted to 113,475,848 bushels."

This alcohol is produced in small neighborhood stills, and is largely used for heating, lighting and power in gas engines, as kerosene and gasoline are used here. The alcohol is produced for about 8 to 9 cents a gallon and is said to be superior to the other article named, even at the same price. The Germans are thus relieved of the paying of tribute to a voracious monopoly when securing their light and power, and are very glad of it. But we Americans seem to be different, we support the monopoly and act as if we enjoy it. —Farm, Stock and Home.

Last year California produced 40,000 gallons of olive oil and 34,000 gallons of pickled olives. The demand for pickled olives and olive oil is practically unlimited; the supply can never overtake the continually increasing demand. It is safe to say that, had 40,000,000 gallons of oil instead of 40,000 been produced, and 34,000,000 gallons instead of 34,000 gallons of pickled olives, the entire output would have been readily disposed of. Olive oil can be used for a hundred and one purposes, being a good substitute for lard, and even butter.—Sacramento Union.

GRASS SEED.

Secretary James Wilson has issued the following circular:—The act of Congress making appropriation for the Department of Agriculture for the fiscal year ending June 30, 1905, contains the following:—"The Secretary of Agriculture is hereby directed to obtain in the open market samples of seeds of grass, clover, or alfalfa, test the same, and if any such seeds are found to be adulterated or misbranded, or any seeds of Canada bluegrass (Poa compressa) are obtained under any other name than Canada bluegrass or Poa compressa, to publish the results of the tests, together with the names of the persons by whom the seeds were offered for sale."

Announcement is made that the collection and testing of seeds as directed by this act will begin July 1, 1904.

The News says that a young man over at Phillipsburg went to church recently with his "very best" girl. Both were quite handsome and modest. When the collection was being taken up the young man explored his pockets and whispered to the young lady: "I have not got a cent. I changed my pants. In the meantime the young lady had been searching her pockets and finding nothing, blushed a rosy red as she stammered, "I'm in the same predicament."—Ex.

WE'VE ALL BEEN THERE.

He fished and wished,
And wished and fished—
But not a bite got he;
He swore, and tore,
And tore and swore
At river, lake and sea.

He bent and went,
And went and bent
His homeward way, and then—
He lied, with pride,
With pride he lied—
Like other fishermen.

He's true to God who's true to man; wherever wrong is done
To the humblest and the weakest, 'neath the all-beholding sun,
That wrong is also done to us; and they are slaves most base
Whose love of right is for themselves, and not for all their race.
—J. Russell Lowell.

A Golden Rule of Agriculture:

Be good to your land and your crop will be good. Plenty of

Potash

in the fertilizer spells quality and quantity in the harvest. Write us and we will send you, *free*, by next mail, our money winning books.

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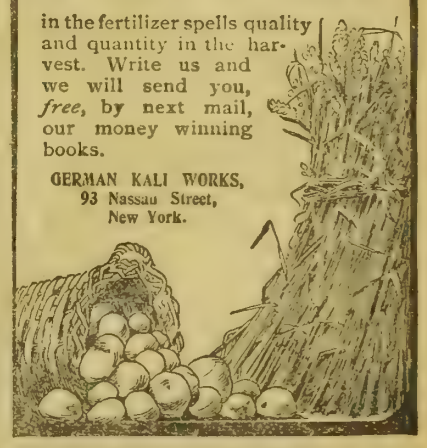

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Friday, June 24, 1904

Green Fruit.—The green fruit shipments out of Sacramento now number from fifteen to twenty cars daily. The aggregate is about one-third less than last year same date. The quantity of cherries is rapidly lessening and apricots and peaches increasing. Monday was the first day on which the 'cots forged ahead of cherries. The amount of peaches also increases each day.

* * *

Twenty-five Thousand.—The magnitude of the citrus industry of this State is more and more impressed upon us as the season advances and the totals mount up. The 25,000 mark was passed on the first of this week which puts it higher than many here predicted. Of course, some predicted last fall as high as 35,000 cars as the year's output, but the more conservative named 28,000 to 30,000 as nearer right. These last figures will be nearly reached.

* * *

Acreage in Raisins.—George Robertson, the fruit statistician of Fresno, maintains that the acreage in raisins in this State is in excess of 90,000 and that it is increasing. He makes a strong plea in the Fresno Republican for an effort looking toward stimulating greater consumption and a seeking for new fields. He also advises the discontinuance of sales of the lower grade fruit. Above all, the raisin growers should have liberally advertised at the St. Louis exposition. Tons should have been given away there in tasty cartons with recipes enclosed and statements of healthfulness of the fruit. To be sure the association was too busy quarreling with itself to consider the marketing questions. This would be a good time for raisin growers to say nothing, sign the new contract and sell the old crop.

* * *

The Exchange Situation.—The Naftzger investigations, or rather the taking of depositions continues in the East. Mr. Naftzger is now in New York and it is assumed that immediately on his return the investigation will proceed, meantime the Exchange members as a general rule, manifest a disposition to await developments. One association, the Zante Citrus Association of Tulare county, has withdrawn and has made a contract with the Citrus Union, renting its packing house and equipment to the Union, which will pack and ship for the growers. The Colton Association has passed resolutions in which it is stated "that we deem it extremely important that all the Associations of the San Bernardino County Fruit Exchange stand united in whatever course it is decided to pursue, so that the most effective control may be exercised over a large percentage of the best fruit grown in California. And that on account of the widespread distrust and dissatisfaction among the growers as to the present manager of the Southern California Fruit Exchange, we deem it essential to the success of the Southern California Fruit Exchange that a change of manager be made."

It is said that the San Antonio Exchange is in favor of change in administration. On the other hand, others of the exchanges are standing by the administration. We believe the greater number of growers will remain true to the Exchange regardless of personality of management. Notwithstanding, there needs to be good sense and good management, cool heads and some little forbearance during the next few months.

* * *

Blowing Hot and Blowing Cold.—A few months since, the independent shipper of oranges was roundly censuring the Exchange because it had "closed its doors," in its merging with the Citrus Union. They wanted in badly. Today the Exchange doors are open and the same growers have other complaints against the same organization, equally as bitter. All, perhaps, explainable, yet such as to cause an onlooker to remark "human nature is peculiar."

* * *

Six Billions.—In last week's Cultivator in a short editorial note on Good Roads, we noted that the saving per year to farmers by good roads was six billion dollars. This should have been $600,000,000 or merely the matter of one extra cipher which of course is "nothing." The copy for this was written properly but of course we avail ourselves the privilege of laying it on to the typo. However great the amount may have been, the lesson is still the same, that the amount of saving to the farmers of the United States in hauling their produce to market or railway, by having good roads over which they could haul greater weight with less wear and tear on the horses, harness and wagon is incomprehensible no matter how many ciphers may be used in the figures.

* * *

Alexander Craw.—As noted in a recent issue of the Cultivator and in Mr. Reid's communication this week the possible removal of State Quarantine Officer Alexander Craw from this State to Hawaii is before California horticulturists. And fortunately the information is received in time that if the people of this State wish to avoid the loss of this most efficient official, he may be prevented from leaving the State. The great worth of Mr. Craw's work is little appreciated for, of necessity, it is but little before the people, but none the less effective and in accomplishment it is impossible to compute the saving to the State, the vast saving, which Mr. Craw's services have given. It has been a service of preventing introduction of many pests and perhaps more in economizing and distributing various beneficial insects. For instance, one little incident. The shipment from South Africa of a few insects—the Scutellista—arrived in poor condition with only three live females. With greatest of care and much coddling the three were soon thousands and going to all parts of the State where the millions of them are now increasing and accomplishing the eradication of the black scale.

This importation and distribution of benefical parasites and watchfulness over importation of those not beneficial is more than mere clerical work. It needs the education and the years of experience under California conditions which Mr. Craw has. It needs more, in keenness of perception and in quickness which many do not have, no matter how estimable the person who might succeed to the position.

Mr. Craw has proved his fitness. It might be expensive proving the next man. Let Craw be retained. If the present salary is not sufficient it should be made so, for California should not be outdone by little Hawaii, neither in keenness in selecting, nor in liberality in retaining efficient officials.

* * *

Forest Fires.—The campers are already moving toward the mountains with camp wagon, on burro back and a-foot. Some with guns, some with cigar stubs, all with matches. All carry the possibility of doing a damage to the agricultural interests, so vast that it is impossible to compute and require ages to recover from. This is so self evident that it should not need mention, yet the few who appreciate the real damage are too few. We have seen many a gathering of people on knoll or hillside watching zig-zag lines of fire creeping over the distant mountain, children often clapping hands and the whole gorgeous spectacle enjoyed by all. To be sure, we do not advise turning the head from so magnificent a scene as a mountain fire, but the absence of concern with which it is observed is indication of need of education.

It was the pleasure of the writer, some years since to tramp over the Sierra Madre mountains with that veteran forester, T. P. Lukens, of Pasadena, with pointed iron placing thousands of seeds of various native and other pines. These seeds were placed in shaded glen and on barren hillside where it was hardly possible the hardiest could scarcely live, but nearly always these were in burned over areas. The lack of success of that planting and of many others in widely separated sections is the most notable feature of the work—save this that the lesson impressed upon those engaged in it has made a few most, most decided converts to the theory that there must be greater care amongst campers and others who would enjoy the pleasure of the mountains. The blackened trunks of dead trees and blackened, scragly brush which show where life once was, is the smallest factor of the loss which is manifested. But the gullied, rock covered and barren hillside which was once a mass of growth and of leafmold holding quantities of moisture for days, now pour torrents into canyon and "wash," and soon to the sea.

Thousands of acres of such hillsides are burned every year—have been, will be this year. Probably in every instance as a result of carelessness. Some claim sheep herder or wood chopper maliciously sets the fires but this is unthinkable; but be that as it may, the saving by care on the part of campers and the taking of pains to convince others of the need of care and the surety of punishment, if carelessness is detected will help to correct this crying evil.

* * *

During the past three or four weeks buyers of fruit in Central California have been very active. Perhaps a fourth of the peach crop has been bought up, Muirs bringing from 5½ to 6 cents, clings and white varieties 5 cents. Apricots have sold easily at 7 to 7½ cents—a cent higher than last year, and most of the crop taken. The fact that the old stocks have been cleaned up and only a fair crop this year caused the activity.

* * *

State Highway Commissioner Ellery reports that Napa county now has thirty-five miles of oiled roads. From 200 to 300 barrels of heated oil was used per mile, at a cost of $1.35 per barrel. No new roads will be treated this year.

A Good Paper.

Dr. E. F. Greenleaf of Santa Ana says the Cultivator is the best farm paper in the State.

McHenry Morrison of Santa Ana says the Cultivator is a very satisfactory farm journal.

R. B. Guthrie of Santa Ana tell us that the Cultivator is excellent.

BETTER GET YOUR NEIGHBOR TO SUBSCRIBE

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Our advertisement in the Cultivator has brought us a good many orders, and we will be with you again in the fall. L. S. FLETCHER, Anaheim.

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...NEWS NOTES OF THE PACIFIC COAST...

HORTICULTURE.

A. Pauek, of Imperial, has planted thirty acres to early varieties of grapes.

The Oregon apple crop is expected to go above the average this year. Strawberries have also been fine.

The Visalia Delta says the fruit crop is very heavy—much heavier than any other county in the State this year.

Many orchardists near Edenvale, Santa Clara county, have already sold their crop of apricots and peaches at good figures.

The first pears of the season were shipped east from Sacramento Monday. Bartletts will not be ready for a couple of weeks.

The Pomona and Ontario canneries are preparing to dry and can 1000 tons of apricots this season. It is expected to run the canneries day and night.

The cannery at Pomona is now putting up deciduous fruits. The crop will run a little lighter than last year, caused by a shortage of cling peaches.

The Redlands Golden Orange Association is preparing to build a packing house 60x120 feet, with basement. The building is to be completed by October.

The Earl packing house at Visalia is now alive with packers handling the fruit crop. The first car of the season was sent out last Wednesday, and consisted of Tragedy prunes, peaches and prunus simoni.

The government report on the prune crop of Oregon this season, shows a marked decrease. In the southern part of the State about 40 per cent and in the northern part 20 per cent of a crop is anticipated.

F. L. Barnhisel has received an offer of $50 per ton, green, for his clingstone peaches. The crop will amount to about 250 tons. The offer was refused and the sale of the fruit will be made by sealed bids.—Hollister Free Lance.

It is now stated that Prof. G. A. Bobrick will furnish the fruit transportation companies with liquid air to take the place of ice. A manufactory is being erected close to the tracks in Los Angeles with a capacity of 640 gallons of frozen air per day.

John Isaacs, in an interview after his return from San Jose, said, that prunes would be a light crop there, cherries are turning out fairly well, while apricots and peaches will run light. Grapes promise a big crop.

Meetings are being held among the raisin growers about Fresno by the association officers to explain the policy of the Raisin Association and to induce growers to sign the three years' contract. The meetings are proving quite successful.

The Highland Orange Growers' Association has men at work sawing a long slot in each side of their packing boxes so that better ventilation might be had. About 4000 boxes are to be treated thus, that number being the entire stock save those that were made for the last season's work.—Highland Messenger.

A meeting was held at Clovis, near Fresno, last Thursday, for the purpose of establishing a co-operative winery at that place. Shares are being sold in the proposed concern at $100 each. While it is not anticipated that a winery will be built this year, yet if prices are not right the growers propose to protect themselves.

At a meeting of wine growers, held last week at Buffalo, N. Y., at which capital invested in the business amounting to over $50,000,000 was represented, a committee consisting of the president of the Wine Growers' Association and the president of the California Viticultural club was appointed to formulate plans for a national organization which would unite the eastern and western growers in one body for mutual benefit.

Both Newtown Pippin and Bellefleur apples are looking much more promising in Pajaro valley than they did a few weeks ago and the yield is going to prove fair after all. When apples are small and tree foliage heavy it is very hard to make anything like an accurate estimate of the coming crop, hence the under-estimates in many instances. The extended blossoming season this year also materially interfered with early estimates—Pajaronian, Watsonville.

A correspondent from Orange county reports the apricot crop as very heavy. The trees are so loaded that they have to be propped, but fruit is not up to average in size. Walnuts promise a big yield, there being but slight showing of blight compared with last year. The nuts are unusually large for this time of the season. Loganberries are not doing well. Some disease is causing the vines to die just above the roots, and the crop is short in consequence. The same trouble seems to effect the strawberries. Peaches will be a very light crop.

The West Highland Orange Company has filed articles of incorporation. The incorporation includes some of the most prominent growers in the Highland district and is the first group of men in that section to take steps to sever relations with the Citrus Union. The capitalization is $10,000. The directors are: A. E. Sterling of Redlands, E. C. Seymour, Frank W. Woods, James R. Watson of West Highland, S. F. Zombro, A. W. Potter and J. W. Curtis of San Bernardino. E. C. Seymour was elected temporary president and Frank W. Woods secretary.

MISCELLANEOUS.

Work on the road bed of the new electric system between Napa and Vallejo is progressing rapidly.

The Register at San Jacinto says that nearly a dozen new artesian wells have recently been sunk, all of which are now flowing.

The San Jose Grange and farmers' clubs have united in an effort to have the next State Fruit Growers Convention held in that city.

The Guadalupe lake has about gone dry, owing to the pumping of the wells sunk near it by beet raisers. Irrigation has saved the beet crop in that vicinity this year.

The Grange at Campbell is endeavoring to establish a telephone system at that place. It is also assisting in the attempt to establish the free market house at San Francisco.

At the Fuller ranch, near Chino, the new 40-horse power pumping plant is now delivering over 200 inches of water from the two wells, which irrigates 500 acres of alfalfa.

100,000 inches of water from the Thomas creek canyon has been filed on for irrigation. The land to be irrigated lies in Tehama and Glenn counties.

W. N. Woodson recently purchased a large part of the Finnell grant of 23,000 acres near Corning, and will sub-divide it and add it to the Maywood colony.

The Inter-California railway has been incorporated, with a capital stock of $4,320,000. This is to be a part of the S. P. system and is to build and operate a road between Mexico and Imperial country.

At the annual meeting of the Farmers' Ditch Company, held at Tulare recently, new directors and officers were elected. The company is reported to be in a very prosperous condition. Stock that a few years ago sold for $60 per share is now quoted at $250.

Morris Bien, the government legal representative, has informed the Utah Land Commission that the Utah Lake project will be made a part of the great storage scheme whereby the Duchesne river, Bear lake and other streams will all be used for irrigating about a million acres of land which is now worthless. The cost of the work to be done by the government is estimated at $5,000,000.

The Imperial Valley Water Users Association, with a capital of $12,000,000, is being organized to take over the canals already built and to further the work of irrigating the 600,000 acres along the Colorado. Settlers who have already paid to the old company are to have credit for such amounts in the new deal. It is proposed to have the government furnish the necessary capital, to be repaid in ten annual installments.

A meeting was recently held at Lindsay which was attended by residents of Porterville, Tulare and Lindsay. The object of the meeting was to provide ways and means to aid in constructing an electric road through the valley, but, after a short discussion, it was decided to urge the Santa Fe to extend its road through the district, as being more beneficial than the electric road. A committee was appointed to wait on the Santa Fe officials and present the wishes of the people of the district. Another meeting is to be held tomorrow at Tulare to further the project.

The break in the Sacramento river levee was closed last Friday, at a cost of $101,000 for the work, besides immense damage to crops, caused by the flooding of valley lands for the past three months. Of the amount of damage done no one can estimate now, as thousands of acres of crops were destroyed, and worse yet, the deposits from the flood have ruined many fine farms for a period of several years at least. Not only was the damage not confined to the Sacramento valley, but in the San Joaquin valley it is estimated 75,000 acres of bottom land has been submerged.

AGRICULTURE.

A fire near Tulare last Tuesday destroyed considerable feed and grain on the ground burned over.

Colorado capitalists will erect a $1,000,000 beet sugar plant at Caldwell, Idaho.

The government has awarded the contract for 5,000 tons of hay and 6,000 tons of oats to California firms, to be sent to the Phillippines, for use of the army.

Complaint is made by grain growers near Idyllwild that the quails and gophers are so thick that they have caused greater damage to grain than the drouth.

The Lompoc Record says that the mustard crop will be very short this year. There will be less than five hundred acres harvested, as against an average of from two to four thousand acres in previous seasons.

The report of the secretary of the Celery Growers' Association of Orange county, shows that during the past season it shipped 1507 cars, containing 1,841,149 dozen plants. Amount received for same, $293,817.69, less $2351.10 for expenses. There were 163 growers interested in the shipments.

Watermelons and canteloupes are being sent out of the Coachella valley at a lively rate these days. The first car sent to Chicago, week before last, netted the association $3 per pony crate and $4.50 for standard. The crop of watermelons will amount to about 100 cars and canteloupes about 200 cars.

LIVE STOCK.

The Raab Creamery company of Pasadena, has purchased the Oak Glen dairy.

The old Guadalupe creamery at Santa Barbara has been shut down and the machinery sold at auction.

Dr. Ward, the veterinarian of the State University, is now at Petaluma working and experimenting on chickens afflicted with roup.

At Petaluma last week there were marketed 83,000 dozen eggs at from 24 to 20 cents. The demand was strong and prices firm.

Under restrictive measures the outbreak of anthrax at Collinsville, on the Sacramento river, has been kept from spreading and will soon be stamped out.

The Sonoma County Poultry Association with headquarters at Santa Rosa, has ninety members and their produce finds ready sale at good prices.

Intense feeling between the cattle men and sheep owners in Lake county, Oregon, over pasture rights, has already caused the loss of 3000 sheep and the life of one man. Both sides are armed and more trouble is feared.

The fact that there has been twenty per cent more butter made in California as well as that amount extra shipped in from the east, has caused a glut in the Los Angeles market. Butter is, and will be five cents per pound, on all grades, cheaper than it was a year ago.

The Rancho Verde company of Victorville has received twenty-five registered Hereford bulls from the herds of W. S. Marshall and Wm. R. Thompson of Channing, Texas, to breed to 700 Hereford heifers that it bought last year from the L. S. Ranch of Tascosa, Texas.

C. H. SESSIONS, ASSOCIATE EDITOR

STATED MORE PLAINLY.

Editor Cultivator:—In your issue of last week, I note exceptions taken by "A. B. W" to a previous article by the undersigned under the title of "In-Breeding" and the statement that my plea was rather for "line or family breeding."

Now, it may seem a trifle odd, but I meant just what I said. I did not advocate "incestuous" or "in-and-in breeding," neither was I discussing "line breeding" nor "family breeding" nor "out-crossing," excellent and useful as all may be with judicious use. But my claim is very strong that in-breeding for Jersey cattle has proved of immense benefit to the breed and from actual record of results seems to be essential to the production of the highest and best types of reliable reproducing power. And I do urge strongly upon stock raisers of that breed, especially such as are in a position to achieve the best results, the duty they owe as representatives in the furtherance of that breed's success to investigate, without prejudice or preconceived notions, the results of good judicious in-breeding and to compare its results with mongrel crosses of discordant or haphazard types and to follow the plain landmarks of successful improvement.

We have all been at one time "chock full" of ideas drifting through the years of our youth about the awful results that would follow a fair practice of in-breeding and have probably been pointed to examples of some animals in other lines that were alleged to be its victims. But in the meantime Jersey cattle have in myriads of instances been carried right along on those lines to greater power of productiveness in milk, stamina, size, health and prepotency than has been achieved by promiscuous and continued out-crossing, until "beauty and utility" are almost the recognized shadows of in-breeding.

"It iss to smile," when such a well informed student of Jersey history as "A. B. W." states that "Mr. Geo. E. Peer has not inbred, but combined two distinct families." Mr. Peer's principal herd bull, the highest bred pure St. Lambert Melia Ann bull living, is of the following breeding: Lucy's Stoke Pogis was bred to Melia Ann and produced Melia Ann's Stoke Pogis; they were again coupled and produced Melia Ann 3rd; then these last two, full brother and sister were coupled and produced Lottie Melia Ann. The original two again produced Melia Ann's Son. He was then coupled with Lottie Melia Ann (whose sire and dam were his full brother and sister, and all of whom had exactly the same blood complete,) and produced Melia Ann's King, first above referred to. I will add that these sires are all producers of a large number of tested daughters and the cows are all in the tested list with immense yields and themselves have daughters as well as grand-daughters on the same roll of honor. We also recall that "A. B. W." also paid all kinds of good money a few years ago to get one from this herd, still more inbred and, we think, then secured for our breeders one of the good animals of the State. Also that "A. B. W." later purchased, at a good long price, another inbred St. Lambert that we think one of the very best bulls ever brought into California.

If the above case does not represent in-breeding, it is only because it stands for something more intense. Personally, I should not like to go as far as Mr. Peer has gone, but this may only indicate that the shackles are not all yet shed, for Mr. Peer's stock are certainly robust, heavy producing, prepotent and profitable animals.

Mr. W. L. Scott, of Scott's Station, Pa., an experienced breeder of Jerseys, we are informed is an advocate of in-breeding and has thus built up a great herd. He does not think it hurts the constitution or reduces the capacity. Dr. Linsley, one of the most eminent authorities regarding Jersey development, recommends in-breeding as the most effective means of preserving breed characteristics. Indeed, he says that "fixity of type can only be maintained by perpetual in-and-inbreeding. Perfect specimens of any species can be perpetually inbred without any detriment, and no physiologist has ever shown that disease or deformity can be attributable to in-and-in-breeding * * * and such breeding has been the means of developing the most wonderful specimens of productive dairy cows ever known in the world's history."

St. Helier 45 is cited by "A. B. W." as a prominent founder of a strong family, which he certainly was; yet St. Helier is said to be the product of forty years close inbreeding. He cites other strong animals that trace to the Dauncey herd, said to be the most incestuously inbred herd in the world. We could cite a multitude of instances to prove the apparent necessity of strong in-breeding to intensify and develop desirable traits, functions, types and temperaments, but it would only be reviewing the Jersey roll of honor and necessity does not demand. The great essential is that the owners of such animals in our country as represent the highest type of the breed (and of whom "A. B. W." is a prominent one) should be fully impressed by, and deeply conscious of their opportunity and duty to the Jersey interests in general, to the end that the usefulness and power of such valuable animals as they possess be given full opportunity to achieve the great benefit that is one of the corner stones of our hope.—C. W. CAMPBELL.

Are you doing anything in the testing line with your Jersey cows? Or are you just breeding pedigrees with names and registry numbers attached? Don't you think it would be well to keep records and fill up the "white spots" in the pedigrees—the blank spaces that people who don't know your cows will point to as "weak spots" in the ancestry?—Jersey Bulletin.

SOMETHING ABOUT BEING PRACTICAL.

We took a drive the other day among the dairymen who live within a few miles of Fort Atkinson. We noticed that quite a large proportion of these men had a great dread of what they called "theory." If we suggested any improvement in their way of handling dairy work, we were generally met with the remark, "I don't think that is practical." One would naturally think that men were right down to hard pan on everything that pertains to work, who make such extensive use of the word "practical."

On one farm we noticed two sleighs left out from last winter and a hay rake that had been out in the "practical" rain and storm ever since last summer. This man boasts of being practical.

Another man had 30 cows and he was taking only 380 pounds of milk to the creamery, and at the head of his herd was about the scrubbiest looking bull we ever saw. That bull indicated the man's "practical" judgment of how to grade up and improve his herd. In the same neighborhood, sending milk to the same creamery is a herd of 42 cows, most of whom had been giving milk from 6 to 7 months. This herd gives a daily yield of 1000 pounds, testing over 5 per cent butter fat. At the head of the herd stands a splendid dairy bull, that cost $100, and a glance at his calves showed he was worth it.

The first man thinks it is "practical" to keep scrub bulls to produce cows that yield a little over 12 pounds a day.

The second man had looked ahead and there was not a two-year-old

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The Coming Hog. Not Liable to Cholera.

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THOROUGHBRED POLAND CHINAS

Either sex for sale. Young Boars ready for service. CLARK & BISHOP, successors to Lingden & Sons. KINGSBURG, CAL.

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Gold Medal Flock of Southdown Sheep. Bucks For Sale.

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SHROPSHIRE AND
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Both Sexes For Sale

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REGISTERED SHORTHORNS--MILK STRAIN

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Quantity and Quality—Lady Lee, .04; Laura Lee, 4.6; Carrie Lee, .05; Rose Lee, 5.3: Idlewood, 6.2. Choice young stock for sale.

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If your druggist does not stock our vaccines, order direct from us, we pay all charges.

heifer in his herd that would not yield more milk in a year, than the best cow in the scrub herd. And the owner of the scrub herd thinks he is really the most practical man of the two.

In another herd we found the owner preparing to weigh and test his milk. He had been thinking the matter over some ten years and just struck a "practical" frame of mind.

Many a thing is both practical and profitable, but the man himself is not "practical." Yet, who among us thinks of turning the search-light on ourselves. We are all right; it is the other thing that is not practical. We noticed in this day's drive that the most progressive men were the ones who were in reality, the most practical.—Hoard's Dairyman.

SELLING DISEASED CATTLE.

A writer, in the Twentieth Century Farmer of May 4th, comments in strong language against the practice of many breeders in selling aborting cows, and thus spreading this contagious disease in other herds. Men are apt to be very selfish, and the number of breeders are altogether too few, who maintain a high sense of honor in their transactions. However, honesty and fair dealing will pay best in the long run, and the man who sells his honor, as well as his cattle, will soon have nothing to sell. While on this question of abortion, it is our strong belief that one of the very best means to eradicate, is to pay special attention to the sire. It is coming to be believed that the germ is conveyed, in almost every instance, by the male. Every dairyman and breeder should take great care against infecting the sire by service with an aborting cow.

WHAT A HORSE WOULD SAY IF HE COULD SPEAK.

Don't leave me hitched in my stall at night with a big cob right where I must lie down. I am tied and can't select a smooth place.

Don't compel me to eat more salt than I want by mixing it with my oats. I know better than any other animal how much I need.

Don't think because I go free under the whip I don't get tired. You would move up if under the whip.

Don't think because I am a horse that weeds and briars won't hurt my hay.

Don't whip me when I get frightened along the road, or I will expect it next time and maybe make trouble.

Don't trot me up the hill, for I have to carry you and the buggy and myself too. Try it yourself some time. Run up hill with a big load.

Don't keep my stable very dark, for when I go out into the light my eyes are injured.

Don't say whoa unless you mean it. Teach me to stop at the word. It may check me if the lines break, and save a runaway and smash-up.

Don't forget to file my teeth when they get jagged and I cannot chew my food. When I get lean it may be a sign my teeth want filing.

Don't ask me to back with blinds on. I am afraid to.

Don't run me down a steep hill, for if anything should give way, I might break your neck.

Don't put on my blind bridle so that it irritates my eyes, or so leave my forelock that it will be in my eyes.

Don't be so careless of my harness as to find a great sore on me before you attend to it.

Don't lend me to some blockhead that has less sense than I have.

Don't forget the old book that is a friend of all the oppressed, that says: "A merciful man is merciful to his beast."—Farm Journal.

DAIRY SIDE LINES.

Chickens and pigs are generally profitable in connection with the dairy. Of course they should be separate and distinct propositions. It is not supposed that the chickens roost over the mangers or on the sleepers of the empty hay mow, or be allowed to scratch chaff down over the cows and the milkers; nor to hop on to the feed of silage and pick out such choice bits as suit their fancy, to the loss and annoyance of the cow. The chickens should have their own territorial bounds, with the death penalty attached to leaving them. They should be well housed and fed, selected and bred and kept quiet and clean.—Jersey Bulletin.

AMOUNT OF WATER.

When cows are not giving milk they do not require so much water. Heavy milkers, in summer, require from a hundred pounds upward a day, depending on the succulency of the feed and how much they are annoyed by attacks of the horn flies.—Jersey Bulletin.

A roll of bills stopped a bullet which struck a Chicago man in the breast, thus saving his life. Yet there are reckless people who will go ahead day after day without a roll of bills on their persons.

THE PALM GLEN JERSEY HERD

Is being gathered from Island and Eastern breeders and as heifers freshen all will be offered. Imported Sultane's Golden Fern 65304, at head of herd.

For Sale, Melia Ann Ruth 173718, and her bull calf by Imported Sultane's Golden Fern 65304. Price separate, cow $150, calf $50. Ruth has 43 per cent of the blood of the noted Melia Ann, test 18 lbs., ½ oz., on grass, and dam of Melia Ann 3d, 28 lbs., 8 oz., and 4 others. Ruth is a typical "Melia Ann," very handsome, beautiful Isand udder, gives much promise of dairy ability. Her brother in blood is held at $100 service fee, and a sister is in dairy tests at St. Louis. Her bull calf combines the Golden Fern-Melia Ann blood. I know no better blood. Do you? Come and see them. Take S. P. railway or L. A. Pacific short line, to Palms.

A. B. WHITE - Palm Glen Jerseys

Pure St. Lambert Bull,

—ST. LAMBERT OF RAMONA, No. 62633,—

heads the Ramona Herd of Registered Jerseys of Geo. W. Thomas, Riverside, Cal.

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Forty acre stock ranch for sale for $3,000. Buildings, fences and wells cost half the price of ranch. Apply W. J. Cole, Anaheim, Orance Co., Cal.

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PEDRO'S PRINCE PRIMROSE and LOWLAND LAD, with three crosses of the great Golden Lad, are the prize winners that head our herd. Stock of both sexes for sale.

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Two Bull Calves

Of choicest breeding in U. S. One full brother to my sweepstakes bull; other of Rocky Pogis blood. Both beauties. Three Berk Boars of Lynwood-Biltmore blood.

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A handsome golden fawn yearling son of SIGNORA BRUCE NO, 154547

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LEFFINGWELL RANCHO, WHITTIER, CAL.

Service bull "SARGENT BOX," 64833. Bred on the Island of Jersey. Sire, the great Flying Fox, that sold at auction for $7,500. Dam, Miss Sargent, reserve winner over Jersey; winner of seven first prizes and five championship cups. "One of the grandest cows the island has ever produced."

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REGISTERED JERSEYS

One young bull for sale, ready for service; blood of Ida Marigold, sweepstakes over all breeds at Chicago World's Fair; Merry Maiden, sweepstakes all three tests same fair; Lily Garfield, champion 8-year-old in milk, same fair; grandson of Dot's Violet W, 1st prize Cal. State Fair; crossed with St. Lambert.

REGISTERED POLAND-CHINAS

Herd headed by the proved greatest sire ever in the State. Sired 10 winners at last State Fair. Nothing for sale.

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Stock received for breeding at fair rates. NO CHARGE UNLESS SUCCESSFULLY BRED. Correspondence solicited.

OAKHURST JERSEYS

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ALSO

MELIA ANN'S LAD and a YOUNG TORMENTOR BULL

The dams of these bulls are of exceptional breeding and merit. Their pedigrees, prices, etc., may be had on application. Address

James Houston - Duarte, Cal.

High Class Poland China

Herewith, we present a picture of the noted Poland China boar Blackhawk 76,581 Am. P. C. Record. At the last state fair he was an outstanding winner in the yearling class and

was awarded second in a ring for champion of all ages. He is a boar of great finish, mellowness, stout bone, great vigor, and weighed 550 pounds at fifteen months of age. He was bred and developed in the Lingren herd, owned by Clark & Bishop, of Kingsbury, where he still heads one of the best herds on the coast, and is proving a great sire.

Blackhawk was sired by O. K. I. Know, recently sold by them to Messrs. Campbell of La Palma Stock Farm, Buena Park, and is among the finest animals ever sired by that animal.

Blackhawk is a full brother to O. K. Boy 76,579 Am. P. C. Record, that won the first prize in the six-months class at the same fair, and was selected by Prof. Carlyle, of Colorado, to head the fine herd at the Agriculture College of that state.

In breeding, Blackhawk individually is an animal of rare quality, and represents an economical and profit-making type of breeders.—C.

FEEDING CHARCOAL.

Give the hogs a handful or so of charcoal once or twice a month in their troughs or on a clean floor and keep their quarters clean and troughs also and you will never have hog cholera. Throw all your wood ashes to your poultry, or better still, put it in a large flat box in a dry place and see how well they like to dust in it and how quickly they will hunt out every bit of charcoal they can find. My hogs relish a little charcoal occasionally and my poultry will eat it from my hand.—Successful Farming.

OIL MEAL FOR CALVES.

There is no more healthful feed for calves than oil meal or oil cake. It can be fed to calves as soon as they commence eating milk. It should be boiled at first and mixed with the milk—one or two tablespoonsful at first, and as soon as they have learned to eat grain, the dry meal can be mixed with the grain. A half pound a day can be fed when the calf gets to eating his grain good. Skimmed milk with the oil meal and grain, will make a good ration for the calf and it will grow and do well on it.

After the calf gets to eating grain the oil meal can be left off and oats substituted for it very well. The oil meal is fed because it is rich in protein; the same amount of protein can be fed at much less cost in oats.

Two-thirds oats and one-third corn will make a good ration. It does not pay to grind feed for calves, as they masticate and digest it whole nearly as well as if it were ground.

"What I know about running an automobile," said the angry chauffeur, "would fill a book."

"Yes," remarked the policeman who had gathered him in for violating the speed limit, "and what you don't know about running one would soon fill the morgue."

GOATS FOR WORLD'S FAIR.

W. A. Shafer, Secretary of the American Milch Goat Association, writes Colonel Mills, the Chief of the Department of Live Stock of the World's Fair, that a large number of the famous milch goats of Switzerland, island of Malta and other places, where milch goats have been brought to a high state of usefulness, will be exhibited at the universal exposition.

Mr. Shafer writes that Mr. F. S. Peer just arrived from Europe with twenty-six milch goats and that he will return to the continent about June 1 for another importation.

The National Goat Dairy Company has sent a man to Europe for 500 head of milch goats, the best of which will be exhibited at the World's Fair.

CALIFORNIA AT THE WORLD'S FAIR.

The following well known breeders are frequently mentioned as prospective exhibitors of Live Stock at the Universal Exposition at St. Louis, Mo. from the State of California: Sheep—C. P. Bailey & Sons Co., San Jose; Goats—C. P. Bailey & Sons Co., San Jose; Poultry—C. Herbert Diamond, Livermore; Pigeons—C. Herbert Diamond, Livermore: A. B. Woods, Oakland; Pet Stock—C. Herbert Diamond, Livermore.

Sheep Need Salt.—A test of the value of salt for sheep has recently been made in France, says an exchange. Three lots were treated alike as to food and care; one lot was given no salt; one had half an ounce per day, and the third had three-fourths of an ounce per day. Those having the half-ounce per day made a gain of 4½ pounds over those having no salt, and nearly as much over those having three-fourths of an ounce. Those having salt made 13.4 pounds more wool than those having no salt. There were 12 sheep in each lot.

In the Jersey and Guernsey breeds the quality of the skin is supposed to indicate the richness of the milk, but take it as a rule, among all breeds, the skin gives no indication of the quality of the milk given. In a general way, when the skin is soft and oily to the touch, giving the impression that butter might be squeezed out of it, it indicates a healthy condition of the skin and presumably of the other secreting organs of the body, which, of course, includes the udder.

Caked udders and stringy milk are often the result of moldy or improper food. Remove the cause and nature will do the rest.

Heavy feeding before calving is a good preparation for milk fever. If the milk veins and wells are not naturally of good size, a week's feeding will have no good effect in expanding them.

A VALUABLE JERSEY.

C. W. Leffingwell, of Whittier, has sold to John C. Marble & Son, of Los Angeles, Vela's Flying Fox, a bull calf. Regarding the family which gives promise to this youngster's future, Mr. Leffingwell says:

Vela's Flying Fox is by Sargent Fox No. 64833, out of Vela Hastings No. 119615. The sire, Sargent Fox, which I bought at Cooper's sale in 1902, is by Flying Fox, out of Miss Sargent, now named St. Brelade's Gray Princess, recently purchased, I believe, by Geo. W. Sisson, Jr., of Potsdam, New York. The dam of this calf, Vela Hastings, is an exceptionally large, capacious cow, with perfect fore udder and teats which she inherits through her dam, Richland Belle, from Southern Prince, son of Oxford Kate, Vela's sire, Parole, son of Diploma, gives to this calf 25 per cent of combination blood, which, as an outcross seems quite popular, judging from the cows at St. Louis. Vela Hastings started April 30th on a year's authenticated fat estimate and gave in the first thirty days 45.73 lbs. of fat. She is doing as well this month, and, as she is very persistent, I believe that in the twelve months she will make the 400 lbs. requisite to make her eligible to the Register of Merit.

This calf is exceptionally large, with straight, strong back and great depth through chest and flank. He is by all means the liveliest calf we have had on the ranch, and all who have seen him have been pleased with the type stamped on him by his sire, this being the first calf we have raised from Sargent Fox. I feel that the purchasers have secured a splendid individual and trust his offspring will prove to be a distinct advance in breeding.

Much of the future usefulness of the horse depends upon the early training of the colt.

No matter how liberally pigs are fed on slops, they should have access to all the pure water they want.

Lambs should be docked for cleanliness, if for no other reason. Attend to this when they are a few days old.

A teaspoonful of crude carbolic acid in a bucket of water makes an excellent disinfectant to sprinkle over the floor of the hog pen to keep down bad odors. Try it.

WANTED
TO BUY A JERSEY COW

Of proven merit as a performer, to breed to our Island bull,

SARGENT FOX

Must be fresh and not bred, or soon to freshen. We are in the market only for the very best cow available. Address with particulars

C. W. Leffingwell, Jr.
Whittier, Cal.

HOGS FOR SALE.

I have about 120 head of stock hogs, brood sows, and a fine, registered boar which I am anxious to sell. Stock just right for feeding.

G. A. Moore, Burbank, Cal.

Registered Shorthorn Cattle
Berkshire and Poland China Hogs

Young Stock of Both Sexes For Sale

W. C. MURPHY & BRO.

PERKINS. SACRAMENTO COUNTY, CAL.

WARNING TO DAIRYMEN

Do you send your milk to a creamery to be separated, and bring home skimmilk that is a mixture of that from the different herds? If so, are you not aware that you are endangering the lives of your cattle, for if any of the patrons have sick cows, there is great danger of carrying the disease home in the skimmilk. A recent report stated that one party lost 29 out of 30 head, another 17 out of 22, and that the patrons of one creamery alone lost about 400 head from some disease that was very contagious.

PROTECT YOUR COWS BY USING A U. S. SEPARATOR

With a U. S. Farm Separator you have your own skimmilk, pure and sweet, to feed. If these patrons had used U. S. Farm Separators and sent their cream to the creamery this disease could not have spread this way.

Remember the U. S. HOLDS WORLD'S RECORD for clean skimming, with average loss for 50 consecutive runs of only .0138 of 1 per cent.

ALSO HAS LOW SUPPLY CAN

For full particulars, write for catalogue.

We have the following transfer points: Portland, Me., Sherbrooke and Montreal, Que., Hamilton, Ont., Buffalo, N. Y., La Crosse, Wis., Minneapolis, Minn., Chicago, Ill., Sioux City, Ia., Omaha, Neb., Kansas City, Mo. Address all letters to

Vermont Farm Machine Co., Bellows Falls, Vt.

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TAKE NOTICE—PROMPT DELIVERY ASSURED

For the benefit of our California Customers we have arranged to make San Francisco a distributing point for U. S. Separators, so all orders can be delivered promptly. Don't forget this when considering buying a Separator. VERMONT FARM MACHINE CO. Bellows Falls Vt.

MRS. A. BASLEY, ASSOCIATE EDITOR, HOLLYWOOD, CAL.

BREAKERS AHEAD.

On a dark and stormy night the terrible cry of "breakers ahead" comes like an electric shock to every one that hears it. How alarming it is can scarcely be appreciated except by those who have realized it.

Now, I would call "breakers ahead" to every poultry keeper in this climate, and unless the man or woman at the helm is on the alert, shipwreck and ruin are before you.

Most of our breakers ahead are from almost invisible rocks, in fact they are so small that they are heard to detect, and strange to say, most of these rocks are caused by our "glorious climate."

* * *

It is a glorious climate, with its bright sunshine and cool breezes, but sunshine is one of the rocks which may wreck the lives of many young chicks. Nothing is more conducive to health and life than sunshine, but chicks require shade as well. Trees or bushes are the best shade, but if there are none, stakes can be driven, a slight frame made and palm branches or brush laid across to provide shelter from the sun. Few realize what a necessity shade is to fowls. When an epidemic seizes the half grown chicks it is attributed to any cause on earth but the lack of shade, when in very many cases (especially among ducklings) this is the sole cause. Vertigo, blindness, stunted growth are all due to the glare of the sun on unsheltered yards. The castor bean or sunflowers make excellent shade, and even weeds will make a leafy shelter. The temperature under growing green is several degrees cooler than under dry stuff, still board shelters cost little and add greatly to the comfort. I have found a satisfactory temporary shelter to be used for small chicks can be made by ripping open a common gunny sack and nailing four laths on the sides; this little frame can be laid across the top of a small pen or hung on the wire fence and will be a grateful relief from the sun's ardent rays.

Crowding the growing chicks is another sunken rock which wrecks flocks, lack of green food, an insufficiency of pure water, lice, mites, fleas are all dangerous rocks ahead of us, and the biggest of all dreaded rocks is roup.

I intended, in answer to an appeal from Anaheim, to give an article on this disease in all its forms, but my question box today is so full that I have not the space to write about roup, but will defer it to next week.

* * *

MARKET PRICE.

Editor Cultivator: I am a reader of the Cultivator and see the price of chickens in Los Angeles as given in last Cultivator is, broilers, 15c to 17c, fryers 20c, young rosters 22c. This is the reverse from what I thought it might be; my thought was that the younger the chick the higher the price. We have raised a few chickens here every year and sold the young roosters at 10c per pound until last year, when we got 12½c. I want to ask you if the price quoted in the Cultivator was for chickens especially prepared for market or fattened and whether it would be an advantage to ship them, considering the cost of shipping and preparing for it, etc.

We have about two hundred young roosters, hatched between February to end of April, the largest would weigh about four pounds. Would you kindly give us some advice through the Cultivator, whether it would be advisable to ship them to Los Angeles instead of selling at home, as we are inexperienced in shipping, and are not acquainted with any one to whom we can ship. Also how should we prepare the chicken.—J. B., Hemet.

The prices given in the Cultivator are correct. They are for live fowls, not prepared or dressed. You can readily see that if you fatten them even a little, by keeping them from running around, feeding fattening foods, in small coops or pens, they will weigh more and be in plumper condition. I think it would certainly pay you to send up to McCoullough Bros., 123 S. Los Angeles street, one or two coops to try. The expressage from Hemet, I find by inquiry at Wells-Fargo office, is 75c per hundred pounds, weighing crate and fowls. The crate will be returned empty free of charge if so labelled. Make light crates, put into them chickens of the same size or weight and, if possible, of the same color. You can ship direct to McCoullough Bros. They are thoroughly reliable; I know them. I think you will find that all your expense will be covered by deducting 2c a pound from what you receive for the chickens in Los Angeles, but there is no harm in your trying and if you do I should be glad to know the results, as it may help others.

* * *

CANNIBALS.

Editor Cultivator:—Could you tell me what is the matter with my ducks? They eat each others feathers off their backs and wings. Please tell me in this week's paper.—Mrs. W. G., Pomona.

Ducks are inquisitive little things; they see a new feather just sprouting, nibble at it, find it tastes sweet, eat a little more and make the place bleed, and when once they have the taste of blood they are crazy for more. To prevent this vice give them some more animal food, grease the back and wings of the sufferers with carbolic salve (it tastes bad and is very healing) and separate those whose backs or wings are bleeding. As soon as the feathers are grown they will stop this habit.

* * *

SCABBY HEADS.

Editor Cultivator: Please write us through the Cultivator what we can do to chickens with scabby heads, and some breathe through their mouths. Small chicks are dying and the reason why I don't know. What can we do?—F. F., Moneta.

Your chickens have the chickenpox, or sore head. It is caused by a microbe just like the chickenpox of children. It is very infectious and affects both young and old stock. The sores come on the comb, face and wattles, and sometimes form in masses about the eyes and beak, causing blindness and inability to eat. Mild cases frequently recover without treatment; severe cases end in death. With young chicks it is often fatal.

Treatment: Cleanse the sore head with soap suds to which a few drops of carbolic acid has been added. Then grease the spots with carbolic salve or carbolated vaseline. Repeat in three days. Two applications usually cure.

* * *

FLEAS.

Editor Cultivator:—Will you kindly tell me what I can do for my hens. Their heads and all around their eyes are covered with what seems to be a small sized common flea, only they are a little rounder in shape. My baby chicks also have them, and I am afraid it will kill them. If you can give me any remedy you will certainly oblige an old subscriber to the Cultivator.—Mrs A. H., Anaheim.

Your fowls are afflicted with the common hen flea. They are quite common in sandy locations, also in dry and dirty hen houses. Dirty nests, cracks, dusty and dark corners and all accumulations of dry filth are the favorite breeding places for these pests. Besides destroying the peace and comfort of the fowl they produce intense irritation of the skin, and in young birds the growth may be stunted by repeated attacks of the fleas. The hen flea does not breed upon the fowl, but, after satisfying its hunger, it retires to some dark spot and deposits its eggs in the dust or sand and in a short time a fine brood of young fleas come out and pester not only the hens but other animals.

For treating the bites, bathe them with vinegar; this neutralizes the poison and allays inflammation; then

Eggs for Hatching
—FROM—
PURE BRED WHITE LEGHORNS
$1.00 per 13—$4.00 per 100
JACOB KREGER
Route 1 - Anaheim, Cal.

Lake Avenue Poultry Yards
Brown Leghorns, White Plymouth Rocks and S. C. Rhode Island Reds. Eggs, 15 for $1.00. Brown Leghorn and White Rock eggs. $2.50 per 50, $4.00 per 100. Strong, healthy stock, prize winning strains.
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WHITE PLYMOUTH ROCK
Egg at $1.50 per 15.
Circular Free.
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Mrs. F. T. Hungerford, breeder of high-class Black and White Minorcas, White Wyandottes and Indian Runner Ducks. Nothing for sale from July 1st until Sept. 1st. After that remember us for duck eggs and fine young cockerels

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Incubators and Brooders
Send 10 cents for our 96-page book entitled, Hens' Secrets Discovered; contains more information on raising chickens artificially than any other book published. 16-page circular free
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IF RIGHTLY HANDLED
The best hatches come from stolen nest. The Natural Hen Incubator (patented) assures equally good results and is guaranteed to cost less money, time and trouble to operate than any other now in use. Hundreds of testimonials prove it. Needs only a few minutes' attention daily. 100-egg size costs about $3.50. Copyrighted plans $1. Plans of brooders, 20c and 50c.
A. A. Welch, Azusa, Los Angeles Co., Cal.

MATURED
Standard Bred
Barred Plymouth Rocks (Ringlet Stn)
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S. C. W. Leghorns (Emery Strain)
Only Birds That Have
MOULTED
are used as breeders. A limited amount of choice stock for sale Eggs $2 per 15 January to July.
CAPTAIN MITCHELL
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CARRINGTON'S
WHITE
LEGHORNS
Bred to LAY and WIN. 2000 birds on free range. Send for folder to
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The 1904 Catalogue B
Send for Catalogue B if interested in poultry raising. Forty pages of valuable information. Address
Must Hatch Incubator Co., PETALUMA CAL.

Fair Oaks Duck Farm
Expert breeder of all varieties of Ducks. Seattle, Wash., Show, Jan., 1904, 6 entries, 6 first prizes, 6 medals and premium.
James Hague, Proprietor
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Thoroughbred Buff Cochin Bantams
Five pairs Thoroughbred Buff Cochin Bantams for sale, 6 months old and laying; also 13 3 months old chicks, very tame and interesting pets. LOUIS S. FLETCHER, Anaheim, Cal.

READY FOR BUSINESS
Lice and Mites are always ready for business, and for ridding the roosts, houses and old fowls of these great life destroyers, you must use
Lee's Lice Killer
and for lice and mites on chicks and in the nests where the hens are setting, the only sure killer is
Devil's Dust with D. to L. Ointment
HENRY ALBERS 315 S. MAIN ST., LOS ANGELES, CAL.

White Leghorns, Black Minorcas, White Wyandottes and Barred Plymouth Rocks
Trophy Winners at Late Los Angeles Show
In each variety my fowls won a share of the regular premiums, and in some thirteen out of a possible twenty-five, or more than all competitors combined. My winning of First, Second, Third, Fourth and Fifth Premiums on White Leghorn Cockerels was the most striking success of the Show. The winning of the National White Wyandotte Club's Blue Ribbon for the best display of White Wyandottes was equally significant. But over and above all, the winning of the Times Eagle Trophy, the most coveted of all the prizes, awarded for the best display throughout, was the most signal and the most important victory of the entire Show. The handsome Cup offered by The Live Stock Tribune was awarded to my stock on the same grounds. These victories only add to an already long list. My fowls have received first premiums wherever exhibited. Over eighty premiums in the last five years.
My fowls are not only standard-bred, but utility-bred. Hundreds of customers attest their merit. They have proven their superiority both in the Show Room and as Breeders. There are no better fowls to be found anywhere, East or West. Both Stock and Eggs sold under absolute guarantees.
SEND FOR NEW ILLUSTRATED CIRCULAR GIVING SHOW RECORD AND PRICES
G. I. Lytle, CITY ADDRESS 2008 SOUTH GRAND AVENUE PHONE—HOME 6435 **Los Angeles, Cal.**
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Reached by either the San Pedro Electric Line, or the Redondo Electric Line via Gardena
All Stock is Kept at Ranch Phone: Sunset, State 82

grease them with carbolated vaseline. To free the poultry houses and yards, spray them frequently with kerosene emulsion, to which a little carbolic acid has been added. Throw your scalding soapsuds in the dry, dusty corners to kill the larvae, or young fleas. Clean out all the nests, use lime, tobacco dust and moth balls in the nests. It is early in the summer to have such a terrible plague of fleas, and unless you fight them vigorously now, there will be sad mischief before the rains come. The rains always check the fleas.

* * *

TURKEYS.

Editor Cultivator:—I do not like to take up any more of your valuable time but I do so want you to know about my turkeys. Your kind letter and article came just in time to save their lives, and me from the verge of suicide. I was feeding them corn bread and had already lost four out of my first hatch of eight when your valuable instructions reached me. I followed implicitly your directions and now have a fine band of about one hundred young turkeys, all feathered out. The oldest are two months old. Out of one hundred and fifteen hatched I have so far raised about one hundred. I do not feed them anything now, for the fields are teeming with grasshoppers and they have plenty of grain too. They seem to have all they need. I want to thank you again for your kind advice. I get the Cultivator every week. I get so much good from it. I shall never cease to be grateful to you.—Mrs. S. D. K., Orland.

It is very gratifying to learn that I have helped any sister in the poultry yard to make a success with poultry. Turkeys are delicate when little and overfeeding and lice are the causes of much mortality amongst them.

Nothing is better than grasshoppers for turkeys for between each grasshopper so eagerly devoured comes plenty of exercise. It is active work running after the grasshoppers. The grain, too, must be searched for and slowly eaten. The worst trouble is that when turkeys are overfed it affects their liver and the mischief is not apparent at first, and when the discovery is made it is usually too late to repair the damage, consequently they die. If liver trouble is suspected a Carter's little liver pill or any family liver pill administered two or three times will sometimes effect a cure. But better be sure than sorry; don't over feed; give green food, an onion chopped up and no corn until they have sported the red. I am exceedingly glad to learn that your turkeys are doing well.

* * *

TICKS.

Editor Cultivator:—Would like to ask if you can tell me any way to get rid of ticks. They are large, flat and black, and come out only at night. They live in such tiny cracks we can hardly reach them. 2. Will the Australian salt bush make good green food for chickens? We have so little water it is difficult to raise alfalfa or clover. 3. What is the bunty or tailless chicken? May it come in any breed?

I do not know the "ticks" you speak of. I wish you would send me a specimen. Mites, bedbugs and fleas can be killed by fumigating with sulphur if you have a tight henhouse. I always use the following spray on my henneries; it is a disinfectant, wards off diseases, and keeps all insects away. I mix it in a five gallon oil can, cutting the top out. One gallon of boiling water, one bar of soap dissolved in it (or two cups of gold dust soap powder), half a gallon coal oil, one pint crude arbolic acid. This is sufficient to make ten gallons of spray by adding water to it. I put two or three gallons of water in another bucket, dip up some of the mixture (about a pint for every two gallons of water), mix it well and spray thoronghly walls, roof, ground, perches. By using this a few times I think your "ticks", or whatever they may be, will vanish.

I do not know the Australian salt bush, but there would not be any harm in your trying a small amount of it. Swiss chard is very good for fowls, but requires some water. [We do not think the salt bush would be succulent enough to be relished by poultry.—Ed.]

3 The tailless fowl are a separate breed; they come from the Isle of Man, where there is also a breed of tailless cats. The fowl are called the Manx fowl. Traditions says there were Manx horses, also, without tails. There is nothing to specially recommend the Manx fowl; as I remember them in my childhood they were good layers of rather small eggs. The fowls themselves were small and of different colors.

* * *

CHICKENPOX.

A subscriber who omits signing his name, asks for a cure for chickenpox. The answer to F. T., Moneta, in this issue, will meet his case.

JUNE MEETING OF THE OAKLAND POULTRY ASSOCIATION.

The regular monthly meeting of the Oakland Poultry Association was held Tuesday evening, June 14th, at the store of Pres. L. N. Cobbledick, Oakland, there being a large attendance of poultry and pigeon fanciers from all around the bay. Cash prizes were offered by the association on chickens, ducks and pigeons, hatched since Janaury 1st, 1904, the result being that a large number of very fine birds were exhibited. The prizes were awarded by popular ballot, each and every person present being entitled to a vote, which made it especially interesting. Below is a list of exhibitors, with the varieties exhibited:

L. N. Cobbledick, Oakland, pair Barred Rocks; W. R. Mesick, Berkeley, pair Barred Rocks; John Russell, East Oakland, pair Light Brahmas; W. S. Childs, Fruitvale, pair Black Minorcas; E. K. Healy, Alameda, pair White Rocks; Dr. C. M. Selfridge, Oakland, Hen-Runt Cross pigeons; Mr. Knox, Oakland, Runt pigeons; J. O. Williams, Fruitvale, White Duchess pigeons; Jas. Hague, Oakland, Black Cayuga ducks.

The premiums offered were for the best pair chickens, pigeons and ducks, regardless of variety, the result of the ballots cast being as follows:

First prize, pair chickens, L. N. Cobbledick; second, John Russell; third, W. S. Childs.

First prize pair of pigeons, Dr. C. M. Sefridge; second, J. C. Williams; third, Mr. Knox.

First prize pair ducks, Jas. Hague.

The July meeting will be held same place, 401 12th st., Oakand, at 8 p. m., Tuesday, July 12th. Everybody invited to bring birds along. Prizes will be offerd for best birds exhibited, any and all varieties eligible.

Under the head of business, the matter of holding the Seventh Annual Show was discussed, the majority be-

Trade Mark for West Coast Chick Feed.

The above cut is no fancy sketch but is made from a photograph taken of birds that have been, and are being fed on West Coast Stock Food Co.'s goods. The large bird took first prize at Los Angeles Show, December, 1903. His sire took first at Los Angeles Show, 1901, as cock, and first at Pasadena Show, 1900, as cockerel. They have all been raised on West Coast Stock Food Co.'s foods.

FEED WEST COAST CHICK FEED

And raise prize winners. West Coast Chick Feed makes it possible to successfully raise little chicks, turkeys and ducks. They like it. It keeps them healthy. Prevent disease and promote health and growth by feeding West Coast Chick Feed. It is all feed, no waste; cheap in price; best in quality.

WEST COAST
Stock Food
Poultry Tonic
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and
Kilamite

They are guaranteed to be as represented. Do not be deceived into using any other kind. All are made only by

THE WEST COAST STOCK FOOD CO.
PASADENA, CALIFORNIA
Call for and demand West Coast Stock Food Company's goods.

There May be Other Chick Feeds, but People Do Not Want Them

I want to thank the thousands and thousands of people that are using
CHAMBERLAIN'S PERFECT CHICK FEED
for their kind letters in regard to the merit of Chamberlain's Chick Feed, and the fact that they are more than satisfied and do not even want to try other chick feeds that are made to imitate Chamberlain's, is very gratifying to me.

The truth is that Chamberlain's Perfect Chick Feed has no equal and stands alone as the only original dry chick feed, and is the world's feed for little chicks today.

Yours Respectfully, W. F. CHAMBERLAIN,
The Perfect Chick Feed Man, Kirkwood or St. Louis, Mo.

GERMAIN SEED CO., Pacific Coast Agents, Los Angeles, Cal.

ing in favor of holding a show providing satisfactory arrangemnts could be made for Mechanics Pavilion, and with the various dog and pigeon clubs, etc. Secretary was instructed to negotiate with the dog and pigeon fanciers and see what arrangements could be made.

As several members of the association expect to attend the poultry show in connection with the World's Fair at St. Louis, in October, the matter of engaging an eastern judge was left with those members. If the services of one of the best judges in the east can be secured, a man who stands high in the profession, and at a reasonable figure, it is the intention to engage such a man.

Pigeon fanciers around the bay districts especially, will certainly be much pleased to hear of the new organization, "The Pacific Federation of Pigeon Clubs," the purpose of which is to unite and harmonize all the various pigeon specialty clubs into one head, which is certainly a very commendable move. L. N. Cobbledick was elected president of this new Federation of Pigeon Clubs, and the membership is bound to reach a very high number. The pigeon fanciers will meet monthly with the Oakland Poultry Association, and thus combine interests.

J. C. WILIAMS, Sec'y.

CAPONS AND CAPONIZING.

There is considerable misinformation concerning capons afloat in the country. One item of it is to the effect that capons make an immense growth, exceeding that of the males of the same breed that have not been operated upon.

This is a mistake. A capon weighs but little more than a cock of the same breed would at the same age, if both had been fed alike. This small excess in weight may be accounted for on the ground that the capon is quieter than the cock would be and does not take exercise enough to keep his weight down.

A capon may be made extremely fat and this will cause him to weigh heavier than his brother, who has not been operated on, but shut up the cock and he will also get fat.

Another mistake is that it is hard to learn to caponize a cockerel. The operation is one that is easily performed, and anyone with a steady hand and confidence in his own ability can perform the operation. A few may be killed before confidence is acquired, but these can be eaten, as they bleed to death about the same time they would if their throats had been cut. The difference is that one bleeds from the artery in the back while the other bleeds from the artery in the neck.

The best time to caponize is at about three months old. It is not feasible to caponize a cockerel after he has become mature, as the proportion of death, slips, and culls is greater with matured birds than with younger ones.

Capons grow rapidly and mature early, being perfectly quiet and peaceable. Their flesh remains sweet and juicy, like that of a young chicken and, as a rule, they bring twice as much in the markets of the east as common fowls, and it is rarely that capons are not quoted at 50 per cent advance on the price ruling for common fowls.—New England Homestead.

One today is worth two tomorrows. Have you something to do tomorrow? Do it today.—Benjamin Franklin.

GAPES IN CHICKENS.

This common disease, destructive among young chickens, is due to the presence of a gapeworm in the windpipe. These worms obstruct the passage of the wind to and from the lungs, and cause the gaping so often seen in young chicks. The Kentucky experiment station made careful study of this disease. It was found that the common practice of introducing a partly stripped feather into the trachea and by a twisting motion to dislodge the worm, does not seem to be practicable for young chicks. The trachea is so small that it is impossible to remove all the worms by such means. Half grown chicks will recover themselves without treatment. Young chicks yield to rubbing the neck from time to time with lard or vaseline, thoroughly mixed with a little turpentine(three parts of lard or vaseline to one of turpentine). This treatment should begin before the disease makes its appearance. It will not help the chick in the last stages of the disease. Pure turpentine will kill a chick when rubbed on the neck over the trachea. It is transmitted to each other, and when one is found to have gapes it should be separated from the others and treated.—Farm Sentinel.

Mrs. Hansel, whose hens won such success in Australia, traded her best big doll, when a child, for 5 pullets and a cockerel. She raised 100 fine chickens the summer she was ten, and has owned and reared poultry ever since. Encourage the children.

Perhaps more trouble comes from irregular feeding and watering of fowls confined in wards than from confinement itself. The biddies can't then find those things for themselves, and if left to become over hungry and thirsty will gorge and suffer when again attended.

I picked up an Eastern paper and looked at poultry prices, which were 14 cents a pound for chickens, 12 cents for hens, and 8 cents for roosters, so it does not pay to put an old rooster or two in a crate of fowls to be shipped, because he drags down the price of all the others.—Pacific Homestead.

Ducklings.—Ducks are able to thoroughly wet themselves with as small a quantity of water as any other fowl. On this account, and because they must have water to rinse out their nostrils while eating, it is well for the first few days of their lives to provide water with food, and remove drinking dishes when they are done eating. For the first week, feed every 2 hours, then 5 times a day, giving the first meal early in the morning, as ducks stir about whenever it begins to get light. If you wish them large of their age, push them with considerable pudding, of a growing nature. Feed on boards which can be scraped clean, and after a month let them range freely.—F. S. & H.

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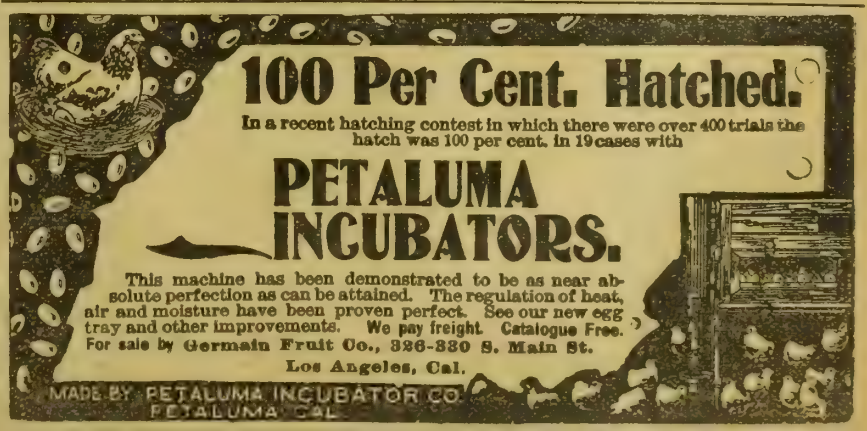
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HENRY ALBERS, 31 S. Main St., Los Angeles

VETERINARY DEPARTMENT

BY DR. W. J. OLIVER,
109 North Broadway, Los Angeles

To the end that this department may be made as valuable to the subscribers as possible, we ask observance of the following: Be sure to state in full the history of the case, location of the disease and the conditions under which the animal has been kept just before and since the disease ap eared. Give your name and address, which will not appear in the paper if you so request. No charge whatever is made for such questions as are answered through the colums of the Cultivator, but when an immediate mail answer is wished Dr. Oliver asks an additional fee of $1.00 and will give immediate attention and reply by mail. In such case write Dr. W. J. Oliver, 109 No. Broadway, Los Angeles, Cal.

Questions should be in by Monday to be answered in the following Friday's paper.

OPTHALMIA.

Editor Cultivator—As to the symptoms of the disease known to me as pinkeye, would say that the first is generally a rattling in the throat as the phlegm was more or less accumulated accompanied by a cough,. The calf has some difficulty in drinking after taking one or more swallows, he steps back quickly with his nose elevated,then it tries it again. His eye begins to run water, he loses appetite for a week or so.

The eye becomes badly inflamed and a heavy white scum forming a thick fleshy substance over the pupil, seems to be very painful. Sometimes a round ball forms just over the pupil, from the size of a pea to a marble. This is full of a watery substance and in some cases the eye extends an inch or more out. It leaves some with the eyeball perfect except they always have more or less of the scum left. The disease first put in appearance in my herd a year ago among calves that were running out in grain fields. They have it at all ages from one week to one year.—G. L.

You have a contagious form of opthalmia in your stock. I believe you had better change the bulls sell off all that have been affected as soon as they are in condition. The disease is congenital and incurable.

* * *

ACTINOMYCOSIS.

Editor Cultivator—I have a bull that has a lump on his upper jaw. I think it is actinomycosis. I have been giving 1½ dram doses daily of bromide of potassium twelve days. It does not grow any larger, but does not seem to be any better. Can the potassium be given in feed as I find it almost impossible to give in a drench. Please give remedy if I have not done right. —T. H. Stafford, L. A.

Either you have erred in writing or in remedy. You should have given Iodide instead of bromide of potassium.

You can dissolve the potash and give in mash with just the same results. Increase the dose to one dram twice a day.

WHAT CONSTITUTES A BALANCED DIETARY.

The columns of the Cultivator have often contained "Balanced Rations," at least information on balanced rations for stock and poultry and now it appears that us humans should give more attention to our diet. Some people—cranks—diet themselves to death, but most of us eat everything that "tastes good," with little thought as to needs of the body. On this point the Ladies Home Journal says:

There is great misunderstanding among housewives as to the nutritive value of starch. They give their families potatoes three times a day, feeling that potatoes are nourishing. Analysis would, however, show great bulk without a corresponding amount of nourishment. Rice contains the greatest amount of available starch; the grain itself, containing little cellulose, forms one of the most easily digested of vegetable foods, requiring only one hour for perfect digestion. Rice contains 75 per cent of starch in 100 parts; the potato only 18 per cent.

Rice must always be served with meat or other nitrogenous foods to give a balanced dietary. Rye contains 71 per cent of starch in 100 parts; macaroni, 73 per cent; Scotch oatmeal, 63 per cent; peas, 51 per cent; lentils, 56 per cent; beans 52 per cent; ground nuts, 11 per cent; fine flour, 74 per cent. Whole wheat flour contains less starch, because it is made from the whole wheat grain, ground, while the white flour has a portion of the mineral matter taken out, and is milled and blended to give a greater amount of starch. White flour contains less mineral matter, tooth and bone material, than entire wheat flour, and is largely to blame for such conditions as constipation and intestinal indigestion. It is particularly unwise to use white bread where there are growing children. Fortunately, in this country, oatmeal is used to a great extent as a breakfast food. If properly cooked and slowly eaten it makes up for the lack of mineral matter in white bread.

THE CALL OF THE HEN.

(Continued from page 602)

digestable protein it contained would be worth about 22c per pound.

Bran, at $24 a ton, protein 11c a pound, and only from 10 to 15 per cent of bran can be used to a good advantage in the mash for poultry for if more than this is used, it will pass through the gizzard undigested. Shorts, at $25 a ton, protein 14c a pound.

White Middlings, at $31 a ton, the digestable protein it contains would cost about 13c a pound.

COULSON'S BALANCED RATION EGG FOOD at $34.50 a ton Petaluma price, the protein only costs 9¼c per pound and you get 1100 pounds of Carbo Hydrates and 140 pounds of BONE AND FEATHER MAKING MATERIAL thrown in with the bargain.

An egg analyzes about 16 per cent protein, or muscle making food. The yolk is 27 per cent carbo hydrates, heat and fat producing and the whole egg contains about 4 per cent phosphorous or nerve and brain food. Coulson's Egg Food contains everything needed in making of eggs and also muscle, bone and feathers, so that the hens do not have to eat as much of it as they would of other feed, so a ton of Coulson's Egg Food will last longer and go further than a ton of other feed.

Supposing we figure that a hen, while consuming the feed that contains one pound of digestable protein would produce one dozen eggs. At that rate, a flock of laying hens would produce while consuming a ton of different feeds as follows:

1 ton corn meal ....1620 eggs
1 ton bran ....2640 eggs
1 ton middlings ....2880 eggs
1 ton shorts ....2160 eggs
1 ton barley meal ....1500 eggs
1 ton Coulson's Eggs Food...4500 eggs

and sometimes more.

Progressive poultrymen who do a little figuring and thinking have found out long ago that they could save money on their feed bills by feeding Coulson's Egg Food and that COULSON'S EGG FOOD IS RICHER FEED and goes further and the hens eat less whole grain and PRODUCE MORE EGGS.

It is said that we can sometimes make more money by figuring than by working, so get out your pencil and figure a little, then go and get a wagonload of COULSON'S EGG AND FEATHER FOOD and make MORE PROFIT FROM YOUR HENS.

Coulson's Chick Food and Coulson's Egg Food for sale by over 200 feed stores in California. Ask your dealer for it.

Manufactured by

A. R. COULSON CO., Inc.,
Petaluma, Cal.

(To be Continued.)

Don't put damp towels and napkins in the hamper. Dry them first or they will mildew.

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10 Days Trial

Send us your name and address tonight and we will send you free

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Combines Automatic Sickle Grinder, Tool Grinder, Saw Gummer and Polishing Machine. Both Emery and Corundum Wheels, 4,000 revolutions a minute. In fact its $50.00 of Machinery for $10.00 Use it ten days. Then either return at our expense or send us our special price $10.00 Write now. Agents Wanted.

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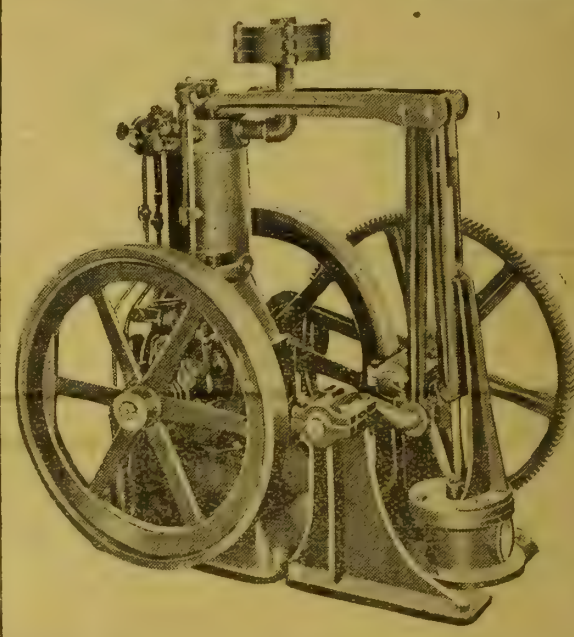

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It will pump water, grind feed, shell corn, churn butter, spank the baby, and fill many other requirements. It has a friction clutch so that engine may be disconnected from pump and used for other purposes.

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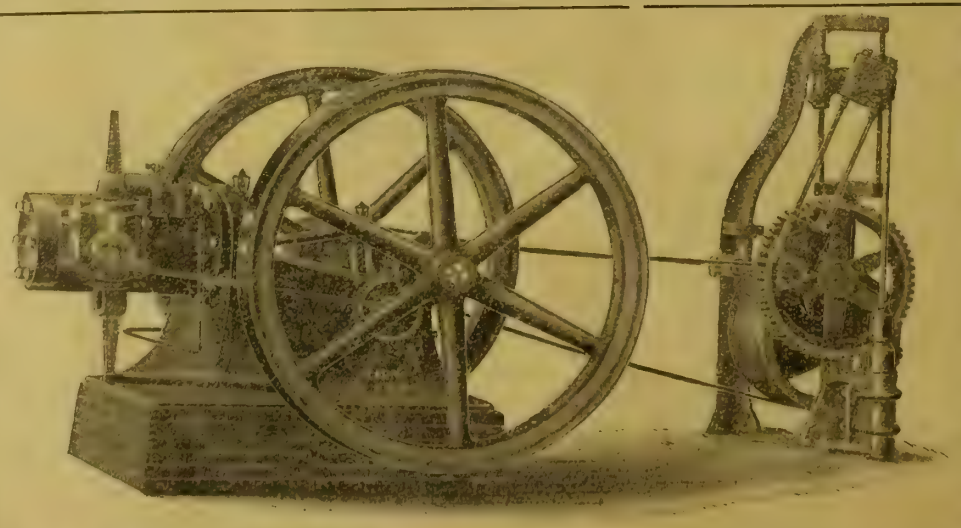

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In small quantity, say 600 to 800 gallons per hour. Here is the plant which will do it at a surprisingly small cost. It's only a 2 h. p. engine, but truly remarkable in results. Let us tell you about it in our new catalogue, mailed free. If you want light power, of Southern California manufacture, write

STEARNS GAS ENGINE WORKS, 1001-3-5 N. Main St., Los Angeles, Cal.

Deep Well Pumping.

The cheapest water used for irrigation is that secured from streams and flowing upon the land without expense of any lifting. Especially is this true if near the source, where too great length of canal does not require maintenance. But all land of California cannot be thus reached. In fact, some of the greatest wealth producing land in the State is supplied with water from wells. What was deemed entirely out of the question at one time, is now accomplished by water-lifting machinery.

It was the pleasure of the writer to visit one of the plants where one of the most economical water lifters is manufactured, a small plant which puts out a large number of pumps. A large number which should increase if the good words of the users are indicative of its worth.

It was the plant of the Pomona Manufacturing Co., of which Geo. W. Ogle is president, and Elmer E. Izer, vice-president. A few minutes talk with its secretary and manager, S. M. Fulton, developed the following interesting facts:

The subject of irrigation in Southern California is becoming of more and more importance each year, as the years roll by and the development of one branch of it, namely, irrigation by means of pumping plants, is assuming vast proportions and has been developed almost entirely during the last twelve years. In no part of the United States or, in fact, of the civilized world, has the matter of irrigation from wells been brought to a state of perfection as it has been in Southern California.

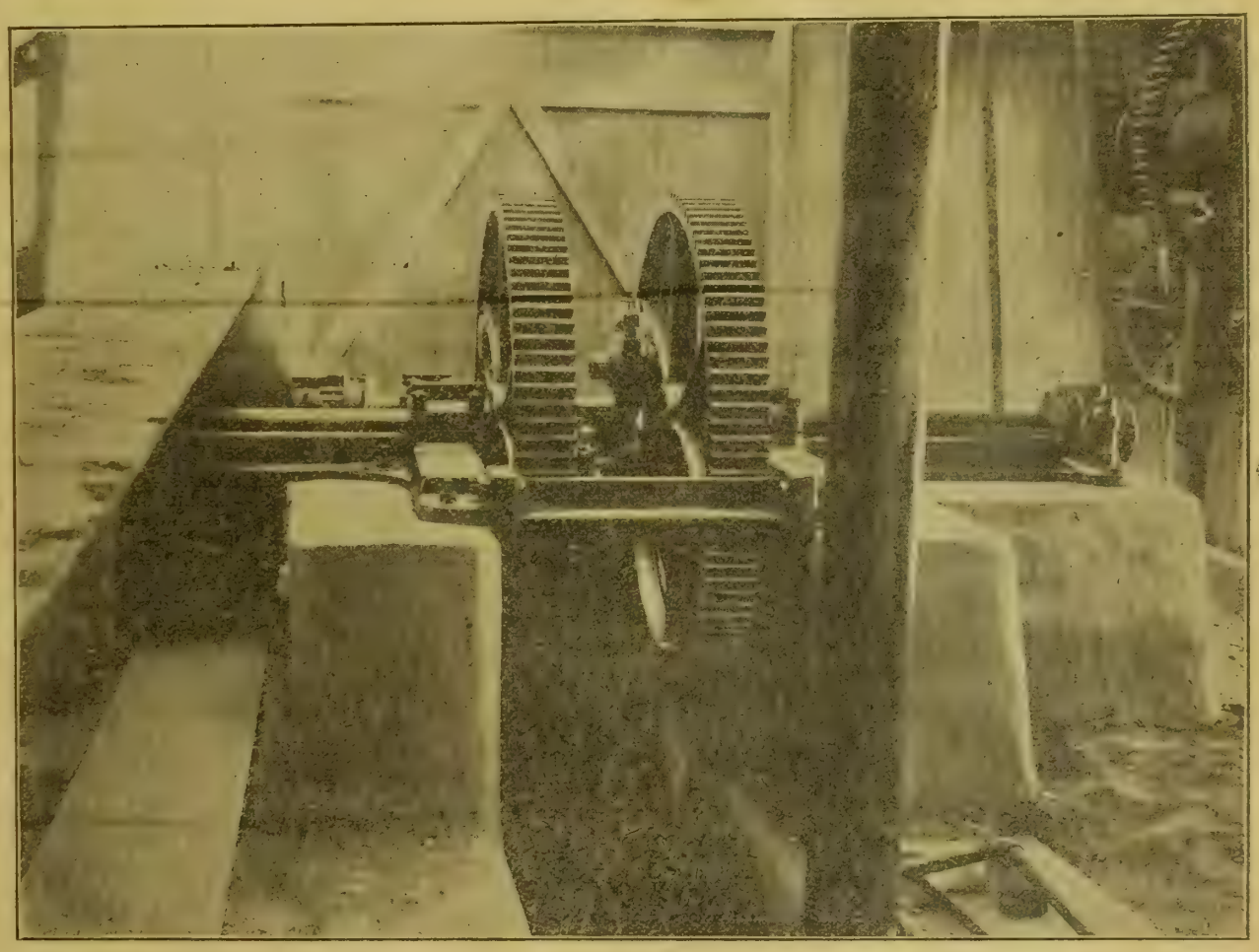
There are three different styles of plants used for this purpose, namely, compressed air lifts, centrifugal pumps and deep well or plunger pumps. The compressed air water raising outfit is composed of an air compressor, driven either by electric power, steam or gasoline engines. The working parts of this plant underneath the ground are very simple, requiring only an air pipe and a discharge pipe for the water, but they can be only operated in wells where there is a large percentage of submerger possible and they are very extravagant in power required to operate them, many of them not developing over 20% efficiency.

The next style, namely, centrifugal pumps, have somewhat higher efficiency than the air lifts. They are composed of three styles, horizontal pumps for very shallow lifts, single vertical for lifts down to 60 feet, and compound vertical pumps, below 60 feet. Centrifugal pumps are capable of raising large quantities of water short distances with a minimum loss of power, but when the lift begins to be from 75 feet down they begin to lose their efficiency rapidly, and one great disadvantage with them is that they require a shaft to be dug and curbed down to the surface or below the surface of the water in the well, and the distance that they can raise the water below where the water stands in the well is limited to the usual amount of suction pipe attached to such pumps, which is practically not over 30 feet. The efficiency of this style of pump on the most advantageous lifts or lifts suited to their requirements is usually about 50%, but when the lift gets beyond 125 or 150 feet they have been known to fall as low or below 30%.

With a deep well pump, the first cost of installation is somewhat greater than with a centrifugal pump, but they have one great advantage over that style of pump, in that they are equally efficient in lifting water from almost any depth, and the amount of water raised in proportion to the power expended is much greater than any other style of pump, and is generally from 60 to 80%, and instances have been known where a centrifugal has been removed and a deep well pump substituted, and twice the quantity of water was raised with half the power. This was on a lift of 160 feet. Deep well pumps using a single acting cylinder, or rather a single plunger, have been in use for a long time, but it is only during the last ten years that the double plunger type has come into prominent use. With this style of a valve twice the quantity of water can be raised out of a well, than can be lifted with a single valve, and where wells are of small diameter this is a very important item and enables the irrigator to obtain an irrigating head of from forty to sixty inches out of an ordinary drilled well. It would have been utterly impossible to have done this with the old style, single acting valve, besides in a double plunger pump the moving parts are all balanced, one line of rods balancing the other part, so that the actual weight lifted by the plunger is only the amount of water raised. Until very recently the amount of water that could be raised by a double plunger pump was limited to the amount that could be raised by a nine-inch cylinder, which is the largest size that can be inserted in a twelve-inch well, but during the last year or two the size of the new wells have been increased to fourteen and sixteen inches, which admits of eleven and thirteen-inch cylinders. With the eleven-inch cylinder a stream of sixty inches of water can be raised from a fourteen-inch well any desirable depth below the surface. Such a plant has recently been installed on the big San Joaquin ranch below Santa Ana for the Irvine Co., by the Pomona Manufacturing Co., of Pomona, and is raising sixty inches of water 125 to 150 feet and using about twenty-five horse-power, which makes an efficiency of about 70 per cent, and the owners say that the plant is working very satisfactory. Other instances might be mentioned where the same results are produced in this part of the State. One instance is the San Dimas Irrigating Co., of San Dimas, whose water costs them 1 1-3 cents per inch per hour, which includes fuel, engineer's salary, repairs, interest on the money and so forth. Another instance is of W. H. Neher, of Inglewood, who is raising forty-five inches of water 100 feet at a fuel expense of fifty-seven cents for twelve hours, who attends to his plant himself and does his own irrigating at the same time. Another instance is E. G. Carr of Colton, who is pumping forty inches of water 130 feet at a fuel expense of ten cents per hour, attends to his own plant and does his own irrigating.

During the last six or eight years or since the pumping for irrigation has become quite general, water in Southern California has been gradually receding from the surface, and where a party who has a deep well pumps all that is necessary to do is to add more column pipe and rods to extend the pump down deeper in the well, but where an air lift is employed the additional power required when the lift becomes too great is almost prohibitory, and with a centrifugal pump it has become necessary to lower the shaft and lengthen out the pump frame, shafting and so forth until the lift is gone beyond the power of the engine or motor to do the work or the pump to work with any degree of efficiency.

These good results can be obtained by any one, and those interested can apply to the Pomona Manufacturing Co., of Pomona, who will gladly furnish them with any information desired.



"'Tis an incomprehensible thing," he confessed,
"And often I've marveled thereat—
How a girl with a live, warm heart in her breast
Can wear a dead bird on her hat."

Mary made her little man
Insure his life one day,
The little man is dead and gone,
But Mary—she's O. K.
—Policyholder.

YUMA IRRIGATION.

The immense government irrigation project at Yuma in which the government will spend probably $3,000,000 is to be placed in the charge of a former member of the Geological Survey, Homer Hamlin, of Los Angeles.

The great work which will reclaim vast acres of California desert will require several years to complete, and Mr. Hamlin will ultimately have his headquarters at Yuma, though, for the present he is in Los Angeles. Next month he will go East and take up a thorough study of hydraulic gates and locks. He will visit the Dalles on the Columbia River, the locks at Sault St. Marie, and the plant at Niagara Falls, and the Chicago drainage canal. This will be to secure data as to features which will be necessary and most effective on the Colorado.

Mr. Hamlin is thoroughly familiar with the Colorado, its flow at all seasons, and with the conditions which prevail on the land to be irrigated.

Tight boots are a blessing because they made a man forget all his other troubles.

IRRIGATION CONGRESS.

The National Irrigation Congress will hold its next annual meeting at El Paso in November. C. B. Boothe, chairman of the Executive Committee, has formed the following sub-committees on program:

Forestry—Gifford Pinchot, chairman, Atlantic Building, Washington, D. C.

Land and Water Laws—George H. Maxwell, chairman, Fisher Building, Chicago.

Engineering and Mechanics—Frederick H. Newell, chairman, Reclamation Service, Washington, D. C.

Production by Irrigation—Chairman, C. B. Boothe.

Climatology—Willis L. Moore, chairman, Department of Agriculture, Washington, D. C.

The first aim for your time and generation shall be to foster a simple and self-denying life.—Thomas Hughes.

BEREAVED.

Let me come in where you sit weeping—aye,
Let me, who have not any child to die,
Weep with you for the little one whose love
I have known nothing of.

The little arms that slowly, slowly loosed
Their pressure round your neck—the hands you used
To kiss—such arms—such hands I never knew.
May I not weep with you?

Fain would I be of service—say something
Between the tears that would be comforting,
But O!—so sadder than yourself am I,
Who have no child to die!
—James Whitcomb Riley.

I WONDER WHY.

I wonder why it is that girls are always told that they
Should do just like their mothers do in every single way
It's offul easy fer a girl to git along, becuz
They praise her up fer actin' just the way her mother does

I wonder why it is that boys can't go and do the way
Their pas do, and still not get licked or lectured every day?
Their pas they always smoke and many of them chew,
And wunst my pa he got so mad I heard him swearin', too!—Kiser.

A Comedy of Love.

Lucinda and Eunice Ransom were sisters, and they lived in an old white house which had belonged to many generations of Ransoms. It looked straight out on the Dawson place—and to watch the goings out and comings in of the Dawson folk had been Lucinda's great interest in life for the last fifteen years.

For Lucinda was a cripple and her interests were few. She and Eunice were good types of the New England woman. They were both stiff, reserved and strong natures, fond of each other in a cold, self-contained fashion, honest and truthful, but hard on sinners and religious in a painfully austere manner.

Eunice had the weekly distraction of chapel, an occasional tea party at a neighbor's, the excitement of sewing bees and the great annual picnic—also she had the care of the rambling, luxurious garden and the large-roomed old house. But between Lucinda and eternal monotony there was only a strip of road and the Dawson back garden; the garden where the endless comedy of little things was played out daily, this garden watched by Lucinda from dawn to sunset.

"Eunice"—Lucinda's tone was sharp with interest—"Patience Dawson has had her beau with her all this while—well, since supper, anyway." The cripple did not turn her head as she addressed her sister, all her attention being focused on the two dim shadows in the garden opposite—the girl who was sitting on the step at the back door, the tall, heavily built boy bending over her.

"Lor, Lucinda—what an interest you do take in the Dawson lot." The other's voice had a certain good-humored contempt in it. She moved backward and forward with heavy tread, putting the parlor tidy. She was a large woman of about 50, a few years the elder of Lucinda.

Lucinda flushed all over her thin, pinched face.

"Well, if you sat here all day," she began weakly, "you'd be mighty glad of something to look at and think about, I guess." Then, with a sudden change of tone and manner—"My gracious, Eunice, he kissed! I saw him."

Eunice glanced at her curiously.

"Well, if I ever did, Lucinda Ransom. Why, you are just as excited as ever you can be—and over what? Just that silly Dawson girl and Abram Morris—young fools both." The voice was hard. Love to Eunice was only another word for foolishness, and she had all the unmarried woman's prejudice against the pretty folly of courtship. To her puritanical character there was something almost indecent in the eager way her sister was watching the lovers and she seized on the first excuse to light the little, evil-smelling lamp and to draw down the blind.

Lucinda sighed. Her picture book was shut up now till tomorrow.

"It must be very lovely—for Patience," she spoke wistfully, half aloud.

Eunice laughed—her mouth full of cracker—her coffee cup in hand. "Whatever has come over you, Lucinda? My goodness, but you do look queer—what is so lovely for Patience?"

"Oh, Eunice, she's got what we have both missed—love. Ah, you may laugh, but I guess I'm right. It's something we both ought to have had and can never have now." There was a pang of regret in the voice.

Eunice flushed angrily. She squared her wide shoulders in the brown cotton blouse and spoke out her mind vehemently.

"Well, I should just be ashamed of myself if I spoke like you. Love, indeed! I guess I never wanted it—I guess no man ever found me thinking of him.What's this fine love of yours worth? Will it give Patience a good house like this of our, and food to put in her mouth, and clothes for her back? Love, indeed?" Eunice tossed her head.

Lucinda looked at her steadily. Some inward force seemed making her speak.

"I've been watching love close for the last year, Eunice, seeing it grow up like a flower in the hearts of those two young things—and somehow the perfume of it has almost reached me here," she smiled slowly to herself, hardly realizing the poetry of her speech. "I've seen," she continued, "the change come into their faces—such a wonderful change! Why, it scares me sometimes just to watch that pretty young thing when she looks up so loving and tender and he bends over her like as if he could not shelter her enough, and there they stand, so silent that the great white butterflies don't even fear them, but brush quite close, and the night comes up so soft and gentle—and I feel right here," she placed her hand on her withered breast, " that I could have loved just as well as Patience if anyone had cared for me that way." She ended her long speech with a pathetic, half-nervous laugh.

"Never let me hear you speak like this again or I shall think you have gone crazy, Lucinda Ransom." The elder sister spoke with a rare rush of indignation. The other inclined her head under the storm of words that followed, but a faint smile hovered around her lips, and she felt in some dim fashion that she had gone more into the heart of life than her practical hustling sister, and her meek spirit took comfort.

Lucinda grew learned in the story of love, and she learned to appreciate far more than the lovers themselves the delicate mysteries of their moods. This lonely, bedridden woman—she whom no man had loved—understood far better than pretty Patience why, on the slow summer nights, she and Abram could hardly find words to express their love, so heavy it lay upon them, while on other evenings it was a matter for sweet jest.

So, during the long summer of perfume and beauty Lucinda followed—but in all humility—the flaming steps of love, and she became very silent, as becomes a disciple. As the autumn progressed, sharp-tongued Eunice used to glance over her sister's shoulder and make brisk comments.

"There—there goes Miss Emma—right into the house, see? She's begun to make clothes. I hear that Patience said she would come out a bride in chapel in brown silk and white ribbons, and have a bonnet, with pink rosebuds. Well, Miss Emma is a real good dressmaker. Tell me when she goes, Lucinda. I don't mind if I ask her over to tea one of these days, so that you can just have a talk, as you sorter take such an interest." Eunice smiled at her sister. Wedding clothes and wedding cake were tangible things and matters for discussion—different, indeed, from the silly walks of two sweethearts in a moonlit, shadowy garden.

The days wore on, and the wedding day was fixed.

Lucinda's eyes got quite strained with watching the garden. Each day it seemed to be becoming more and more a spot of holy ground. The deepening mystery of love enthralled the poor watcher, even coloring her shrunk cheeks with faint pink of suspense. Then quite suddenly the blow fell. An uncle died unexpectedly in New York, leaving Abram most of his money, and Abram had to start straight away for the big unknown city. Lucinda's heart bled for the lovers. She watched their long, lingering parting, her heart thrilling over each farewell kiss, which yet seemed only the prelude to another, and when the two had finally quitted the garden a hot tear rolled down her cheek; a tear hastily brushed away lest Eunice see it and inquire into the cause.

After that evening the picture book lost color. True, Patience used to come and wander about a little in the stillness, flitting ghostlike in her white dress, but Lucinda always felt strangely tired and sad after watching her. The girl's restless yearning for her lover infected the elder woman, and she too longed ardently and impatiently for Abram's return from New York.

One night, just one of the first cold nights of November, Lucinda watched Patience dash down the back doorstep and run into the garden. The girl had twisted a red shawl round her head and shoulders and in the cold gray of twilight her face looked ghastly. Her eyes were red and her lips quivering; she clutched a letter in her hand. There was something tragic in the poor, pretty little face, and old Lucinda felt her own heart beating furiously and wildly. She felt, she knew, that things were going utterly wrong, and that love was proving a traitor. She watched the young girl pace up and down the garden like some wild thing caged, and her heart ached for her. Darkness at last hid Patience from her, but darkness brought little sleep that night to Lucinda.

"So that Dawson girl got the mitten last night. Abram ain't ever coming back from New York—fancies a girl there now."

Lucinda could have screamed as Eunice spoke out bluntly and cruelly, adding with her harsh, strong laugh: "There's an end to your love story—eh, Lucinda? What did I tell you about love and moonshine?"

Lucinda stiffened all over; then she moved herself and spoke:

"Patience is not false—she's true—and love will always be with her—I mean love's memory."

Eunice laughed and looked at her sister humorously.

The winter fled away before the spring, and Lucinda still watched the garden. All her warm pity and her delicate romance had gathered itself round Patience. She followed the girl, whenever she appeared with eyes of worship, for she represented so much of her. The small, peevish face, the fretful walk, the languid pose—all this meant love—fond, unrequited love.

And then—oh, the pitiful comedy of this romance of a garden—just when spring ripened and warmed into summer, just when a thousand sweet and fragrant odors began to perfume the

James R. Townsend Francis M. Townsend
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air and the flowers to be brave with color—Lucinda at her watch tower saw Patience enter the garden—but not alone. The squire's son, just home from college, was with her, and she had dressed herself again in the mantle of maidenly coquetry and was playing, but with more art and finish, the part of the heroine, her old part.

Lucinda shivered. These smiles, these blushes, the man's ardent look, the girl's dainty tremor—the garden's comedy was being repeated.

"That's Patience's new beau," said Eunice carelessly, looking over her shoulder, "and she won't let him slip through her fingers, I guess."

"Pull down the blind," cried Lucinda, and there was a note of strength in her voice that Eunice had never heard before. She pulled down the blind, grumbling that it was still quite light, but Lucinda hardly heard her—for Lucinda was asking herself in a vague, terrified fashion where all the breathing ardent love that the green garden had witnessed had gone.—Lady's Pictorial.

RECIPES

Eat Little, but Have That Little Good

Mustard Pickles—Take of small whole cucumbers, or large cucumbers sliced. Green tomatoes, sliced, and small button onions; each one quart. One large cauliflower, divided into flowerets, and four green pepers, cut fine. Make a brine of four quarts of soft water and one pint of salt. Pour this over this mixture of vegetables and let it stand over night. Drain the brine off, then cover the mixture with water and heat just enough to scald. Drain off the water, measure and throw away. Take the same quantity of vinegar, add one large cup of light brown sugar to each two quarts of vinegar. Put on to boil. Thicken with a mixture of one teacupful of flour, six tablespoons of mustard and one tablespoonful of turmeric, with enough cold vinegar to make a smooth paste. When thoroughly boiled add vegetables and cook five minutes. Put into glass jars while hot, seal tightly. Should these vegetables not be obtainable, others can be substituted as small string beans, cabbage, etc.

* * *

A request has been sent in for a chili sauce recipe, which we printed a few months ago.

Twelve large ripe tomatoes, four ripe or three green peppers, or less if not desired so hot, two onions, two tablespoons salt, two of sugar, one of cinnamon, three cups of vinegar, peel tomatoes and onions, chop (separately) very fine, add the peppers (chopped) with the other ingredients, and boil till it thickens. Seal and it will keep a long time. One quart of canned tomatoes may be used instead of the fresh ones. This chili sauce is excellent and more healthful than catsups.

HOMELY HINTS.

A young lady attending an evening fete was so unfortunate as to spill chocolate on the front of a delicate dress. By soaking in strong witch hazel the stain was removed without changing the color of the goods.

A young man upset a bottle of ink over a pair of light summer trousers. The same treatment removed every trace of the stain.

Another lady got wheel grease on a light skirt, and it also yielded to the charm of witch hazel.

Lemon juice and salt will remove iron rust, ink spots and scorched places on white goods. Put juice and salt on spot and place in the sunshine. Apply more of the juice as it dries away. Continue this process until spot disappears.

WHAT I DO NOT SEE.

When I meet you everywhere, boys—on the street, in the cars, on the boat, at your homes, or at school—I see a great many things in you to admire. You are earnest, you are merry, you are full of happy life, you are quick at the lessons, you are patriotic, you are brave, and you are ready to study out all the great and curious things in this wonderful world of ours.

But very often I find one great thing lacking in you. You are not quite gentlemanly enough. There are so many little actions which help to make a true gentleman, and which I should like to see, but I miss in you.

Sometimes when mother or sister comes into the room, where you are sitting on the most comfortable chair, you do not jump up and say, "Take this seat mother," or "Sit here, Annie," but you sit still and enjoy it yourself.

Sometimes you push past your mother or sister, in the doorway from one room to another, instead of stepping aside politely for them to pass first.

Perhaps you say "the governor" in speaking of your father; and when he comes in at night you forget to say, "Good evening, sir."

Sometimes when mother has been shopping, and passes you on the corner, carrying a parcel, you do not step up and say, 'Let me carry that for you, mother," but keep on playing with the other boys.

Sometimes when mother or sister is doing something for you you call out, "Come, hurry up!" just as if you were speaking to one of your boy companions.

Sometimes when you are rushing out to play, and meet a lady friend of mother's just coming in at the door, you do not lift your cap from your head nor wait a moment until she has passed in. You certainly would, if you stopped to think.

Such "little" things, do you say? Yes, to be sure; but it is these very little acts—these gentle acts—which make gentlemen. I think the word gentleman is a beautiful word. First, man—and that means everything strong and brave and noble—and then gentle—and that means full of these little kind, thoughtful acts of which I have been speaking. A gentleman! Every boy may be one if he will. Whenever I see a gentlemanly boy I feel so glad and proud! Ex.

Don't pour boiling water and soap on grease spots on shelves. Moisten the spots first with a cold saturated solution of sal soda, then scrub them with the grain of the wood, using cold soapsuds.

Don't crumple up your dishcloths. Hang them out to dry.

Don't pour boiling water over china packed in a pan. It will crack by the sudden contraction and expansion.

Don't blacken a stove while it is hot. It takes more blacking and less polish.

Beautiful!

To him who, in the love of nature, holds
Communion with her visible forms, she speaks
A various language: for his gayer hours
She has a voice of gladness and a smile
And eloquence of beauty; and she glides
Into his darker musings with a mild
And healing sympathy, that steals away
Their sharpness, ere he is aware.
—William Cullen Bryant (Thanatopsis).

And Strange Souvenirs of the deep are found at all times along the beach at TERMINAL ISLAND and BRIGHTON BEACH. The only beaches in Southern California where tourists may gather their own souvenirs of the sea. The

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Eastern Excursions

DATES—June 15, 16, 22, 23.
July 1, 2, 7, 8, 13, 14.
August 8, 9, 10, 18, 19.
September 5, 6, 7, 8.
October 3, 4, 5, 6.

LIMITS—Good going on day of sale, with stopover east of California; transit limit 10 days. Good 90 days for return, stopover anywhere.

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SANTA FE IS THE WAY

Los Angeles Markets.

Los Angeles, June [illegible]

Butter.

B. of T. Cream, 2 [illegible]		45
Valley creame[illegible]	45	
Coast Cre[illegible]		42
Cook[illegible]		20
C[illegible]		37½

Cheese.

[illegible] and 3 lb. hand	14	
Cal. Downey and Anchor	12	
Northern	11	12
Swiss	21	
Imported do	26½	

Eggs.

Store, case count	18	19
Fresh ranch	22	23
Eastern		

[illegible] per cwt	5 50	5 62½
Prime steers, cwt	3 75	4 25
Cows, cwt	3 00	3 50
Calves, cwt	4 00	5 00
Sheep, ewes, per head	3 00	4 00
Lambs, do	3 00	3 50
Wethers, do	4 25	4 50

Potatoes.

Highland Burbank old	1 50	1 75
River, per cwt		1 50
Nevada Pearls, old		1 25
Oregon, old		1 50
Early Rose, new		1 40
Nevada Pearls, new		1 25

Vegetables; Mixed.

Onions, Silver Skin		1 35
Onion, Red		1 20
Beets, per 100 lbs		80
Green Peas	05	06
Cabbage, per ton	6 00	7 00
Lettuce, per sack		40
Tomatoes 25 lb. crate		65
Carrots, per sack	60	70
String Beans	03	04
Wax Beans		04
Chiles, green, per lb		04
Rhubarb	75	1 00
Asparagus		06

CITRUS FRUITS.

Valencias, Fancy	2 00	
Navels, Fancy	1 75	
Navels, Choice	1 25	
Standards	90	
Lemons, fancy, per box	1 50	
Standard, do	75	1 00
Grape Fruit		1 50

DECIDUOUS FRUITS FRESH

Grapes per box	65	1 35
Plums, per lb	04½	05½
Apricots bx 30 lb	75	1 00
Strawberries	04	05
Loquats	03	05
Cherries, 10 lb. box		85
Bulk cherries	08	11
Gooseberries, 20 lb. box		90
Loganberries, small	02½	03½
Watermelons, per diz	[illegible]	
Blackberries		
[illegible]		50

Dried.

[illegible], evaporated	07	08
Apricots	10	11
Peaches	06	08
Prunes	03	06
Pears	10	12½
Raisins, per box		3 25
Raisins, loose	05	7½

Beans, Dried.

Pink	3 75	4 00
Lady Washington,	3 25	3 40
Limas	4 00	4 15
Small White	3 60	3 65
Garvanza	4 50	4 60

Nuts.

Almonds, paper shell		14
Almonds, soft shell	13	13½
Walnuts, soft shell	14	14½
Walnuts, hard shell	13½	14
[illegible]nuts, eastern	07½	08
[illegible]nuts, California	07½	08

Honey

[illegible]e, strain, per lb		06
[illegible]t amber, do	05	06
[illegible]mb, water white		15
Do, light amber		13

Hay.

Barley, new	9 50	10 50
Alfalfa	9 00	11 00
Tame Oat	10 00	12 00
Barley hay	11 00	12 00
Wheat hay	11 00	12 00

Grain.

Oats	1 35	1 40
Wheat	1 65	
Barley	1 20	1 35
Corn	1 35	1 50

Stuff.

b. cars L. A. are:

[illegible]	1 25	
[illegible]	1 30	
[illegible]		
[illegible]		
[illegible]	1 85	
[illegible]	1 50	

[illegible]co Markets.

San Francisco, June 23rd.

Dairy.

BUTTER—Per lb:

Creamery, extras	20	
Creamery, good to fancy	18	@19
Dairy, extra	17	@18
Dairy, choice	15	@16
Store	14	

CHEESE—Per lb:

Cal. Creamery, mild, new extra	10	@10½
Cal. Creamery, mild new, choice	8	@ 9
Young America	10	@11½

Eggs and Poultry.

Eggs have shaded slightly owing to large receipts of Eastern.

EGGS—Per dozen:

Ranch, selected large	23	
Ranch, good to fancy	20	@22
Store	17	@19
Eastern, firsts	20	@21
Eastern, seconds	16½	@18

POULTRY—Old roosters, per doz., $4@$4 50; young Roosters, $7 50@9; Fryers, $6@$6 50; Broilers, large, $3@4; small, $2@3; Hens, small, $4@4 50; large, $5@6; Ducks, per doz., old, $4@4 50; young, $4 50@5; Live Turkeys, per lb, 14@15c; Geese, per pair, $1 25@$1 50; Goslings, $1 50@2; Pigeons, per doz, old, $1 50@1 75; young Pigeons, $1 50@1 75; fancy Squabs, $2@2 50.

Fruits and Vegetables.

Cherries are short and higher. Fine Apricots command highest quotations. Bartlett Pears readily command $30 per ton. Coachella melons are in liberal receipt.

DECIDUOUS FRUITS—Green Apples, per small box or basket, 25@50; do, large box, 75c@$1 25; cold storage Apples, $1@2.

Cherries—Per box; Black, 65@85c; Royal Annes, 75@90c; bulk, per lb, Black, 7@8c; Royal Annes, 6½@8c.

Apricots—Per box or crate, 40@75c; basket, 40@50c; bulk, per lb, 2@3c.

Peaches—Per box, 50@75c; basket, 50@85c.

Pears—Per box or basket, 25@60c.

Plums—Per box or basket, 40@75c, as to variety.

Cantaloupes—Crates, $2@3 50.

Watermelons—Per lb, 2c.

Grapes—Per crate, Seedless $1@1 50.

Figs—Per box, Black, 50c@$1 25.

BERRIES—Per chest: Strawberries, Longworths, $4@6; large varieties, $2 50@4; Raspberries, $5@8; Blackberries, $3@6; [illegible]ries, Red, $2@2 50; Black, $2 50@[illegible] berries, per lb, common, 3@[illegible] 7c; Currants, $3 50@[illegible]

CITRUS FRU[illegible]; late Va[illegible] $1 25@3 [illegible] Mediterranean Sweets, $[illegible]; Grape Fruit, $1@2 [illegible], nominal; Limes, $4@5.

VEGETABLES—Asparagus, per lb, 5@8c; Tomatoes, per box or crate, southern, 65@85c, do, Mexican, 65c@$1; do, Mississippi, per crate, $1 10; Rhubarb, per box, 65@85c; Green Peppers, per lb., southern, 4@7c; Stockton, Chile, 12½@15c; Belle, 20c; Dried Peppers, Stockton, 7@8c; southern, 8@12½c; String Beans, per lb 4@5c; Wax Beans, 4@6c; Garden Peas, per lb, 3@4c; Egg Plant, per lb, 5c@10c; Summer Squash, per box, bay, $1 50@2; southern, 75c@$1; Cucumbers, bay, per box, $1 50@2; do, Marysville, 75c@$1; Corn, per sk, $1 50@2 50; Garlic, per lb, new, 4@6c; Marrowfat Squash, jobbing at 1@2 per lb.

POTATOES—Per ctl: River Burbanks, 90c@$1; Oregon Burbanks, $1@1 40; New Potatoes, Whites, $1 25@1 75; Early Rose, $1 40@1 60; Garnet Chiles, $1 50@1 60.

ONIONS—Per ctl: Silver Skins, $1 25@1 50; New Red, 65@75c.

Dried Fruits, Nuts, Etc.

DRIED FRUITS—Prices for carload lots, f. o. b. at California common shipping points, in bags, for 1903 crop, are per lb. as follows:

Apples—Evaporated, 5@7c; Sun Dried, 3c@[illegible]

Apricots—Royal, fancy, 10@10½c; choice 8½c @9c; Moorparks, 10@12c; futures, 7@8c.

Plums—Pitted, 5@7½c; unpitted, 2c.

Prunes—Four sizes, 60s to 100s, 2@2½c for Santa Clara; other sections, ¼@½c less.

Peaches—Choice, 7c; fancy, 8@8½c; peeled, in bxs, nominal; futures, 6c.

Pears—Bartlett, fancy, 15c; choice, 12½c @13c.

Nectarines—Nominal.

Figs—White, 3@4c; Black, 4@4½c.

RAISINS—Prices by the California Raisin Growers' Association on standard brands, 1902 crop, in 50-lb cases, f. o. b. at Fresno, are as follows; Loose Muscatels, 4-crown, 4c per lb; 3-crown, 4½c; 2-crown, 4c; Malaga, loose, 3-crown, 4c; 2-crown 3¾c; Thompson's Seedless, 4c; Seedless Sultanas, 3½c; Seedless Muscatels 3¼c; do, floated, 3½c; Seedless Raisins, 16-oz cartons, fancy, 5½c; choice, 5¼c; 12-oz cartons fancy, 4½c; choice, 4⅜c; in bulk, fancy, 5¾c; choice, 5c. Prices are subject to change without notice.

NUTS—Per lb: California Almonds, hard shells, 6@7c; soft shells, 9@10c; paper shells, 11@11½c; Pecans, 11@13c; Pinenuts, nominal; Peanuts, Eastern, 6@6½c; do, California, nominal; Brazil, 11@12c; Filberts, 10@11c; California Walnuts, soft shells, No. 1, 13@14c; do, No. 2, 10@11c; hard shells, No. 1, 12@13c; do, No. 2, 10@11c; Hickory, 8@10c; Chestnuts, Italian, 5@7c; Cocoanuts, $4 50@5 per hundred.

Honey

HONEY—Comb, per lb, nominal; Extracted Water White, 5½@6c; Light Amber, 5@5½c; Dark Amber, 4½@5c.

BEESWAX—Per lb, 28@29c.

Hops.

The price of new crop is 27½@30c per lb, according to quality.

Beans.

BEANS—Price, per ctl; Large White, $2 35@$2 65; small, do, $2 90@3 15; Pea, $2 90@3 15; Lima, $3 30@3 42½; Red, $4 25@4 50; Pink, $3 40@3 60; Bayo, $2 40@2 55; Blackeyes, $2 05@$2 25; Kidneys, $4 75@5.

Live Stock.

The [illegible] for Live Stock is rather listless, [illegible]ngs are not regarded as excessive [illegible] shows no quotable weakness, al[illegible]e easiness is noted in the cheaper [illegible]nes of stock.

CATTLE—No. 1 Hay-fed Native Steers, 7½c @8c; second quality, 7@7½c; thin steers, 6c @6½c; No. 1 Grass-fed Steers, 7¾@8¼c; No. 1 Cows and Heifers, 6@6½c; second quality, 5½@6c; third quality, 5@5½c; thin Cows and Heifers, 4½@5½c; Bulls and Stags, 3@4c. Prices for all descriptions less 50 per cent for shrinkage.

SHEEP—Per lb: Unshorn Wethers, No. 1, 4c, gross weight; Shorn, 3@3½c; Ewes, No. 1, unshorn, 3½@3¾c, gross weight; shorn, 3@3½c.

CALVES—Light, per lb., 4@4½c, gross weight; heavy, 3¾@4¼c, gross weight.

LAMBS—Suckling, per head, $2@2 25 or 4c @4½c per lb, live weight.

HOGS—Per lb., Hard grain-fed, weighing alive 80 to 200 lbs., 4¾@5c; weighing 200 to 300 lbs., 4½c; rough heavy, 3¾@4c.

Wool.

WOOL—Spring clip, per lb: Humboldt and Mendocino, 20@22c; San Joaquin and Southern, 12 months, 9@12c; do, 7 months, 10@12c; Middle Counties, free, 14@16c; do, defective, 11c @15c; Northern, free, 17@19c; do, defective, 13@16c; Nevada, 12@16c.

Lambs' Wool, southern, 9@12c; northern, 12c@15c.

Hay and Feed Stuffs.

FEED CORN MEAL—Choice grades, per ton, $31 50@32.

GROUND BARLEY—Per ton, $22@23.

MIDDLINGS—Per ton, $27@30.

BRAN—Per ton, 22 50@23 50.

OILCAKE MEAL—In lots of 20 tons, $30 50 per ton; 10 tons, $31; 5 tons, 31 50; less quantity, $32. Prices are mill rates and are subject to change without notice.

COCOANUT CAKE—In lots of 10 tons, $22; 5 tons, $22.50; less quantity, $23. Prices are mill rates and are subject to change without notice.

Cereals.

FLOUR—Net cash, Family Extra, $4.60@4.85 per bbl.; Bakers' Extra, $4.40@4.60; Oregon and Washington, $3.50@4.30.

WHEAT—No. 1 shipping, per ctl., $1.27½; BARLEY—Choice No. 1 Feed, 98¾c@$1 02½; off grades, 96¼@37½c; Brewing No. 1, $1 05@$1 12½; Chevalier, nominal; New Feed, 97½c @$1

OATS—Good to choice, White, $1 40@1 45; Red, $1 2[illegible]@1 35; Black, nominal at $1 22½@$1 27½; New Crop, Red, $1 10@1 20.

CORN—Good to choice, per ctl, California, new, large Yellow, $1 45@1 50; small do, $1 60@1 65; White, $1 45@1 50; Eastern, $1 45@$1 50.

RYE—Good to choice, per ctl, $1 30@1 32½.

CRACKED CORN—Choice quality, per ton, $32@32 50.

Eastern Markets.

Grain and Produce.

Chicago, June 22.

[illegible]sh quotations were as follows: Flour was [illegible] and steady; No. 2 spring wheat, 93@96; [illegible]85@93; No. 2 red, 98@99; No. 2 corn. [illegible]¾; No. 2 yellow, 51; No. 2 oats, 41@[illegible]3 white, 40@44; No. 2 rye, 65; good fo[illegible]arley, 34@40; fair to choice malting, 42@[illegible]

Live Stock.

CHI[illegible] June 22.—Cattle—Receipts, 23,000 m[illegible]low to lower; good to prime steers, 5 75@6 65; poor to medium, 4 25@5 50; stockers and feeders, 2 30@4 50; cows, 1 50@4 20; heifers, 2 00@4 65; canners, 1 50@2 60; bulls, 2 50@4 25; calves, 2 50@5 50; Texas-fed steers, 4 80@5 25. Hogs—Receipts today, 28,000; tomorrow, 25,000; market steady; mixed and butchers', 5 10@5 30; good to choice heavy, 5 30@5 40; rough heavy, 5 10@5 30; light, 5 10@5 25; bulk of sales, 5 25@5 35. Sheep—Receipts, 38,000; sheep and lambs steady to lower; good to choice wethers, 4 75@5 25; fair to choice mixed, 4 00@4 75; western sheep, 3 50@4 90; spring lambs, 6 50@7 50; western lambs, clipped, 6 00@6 85.

Dried Fruits, Nuts, Etc.

NEW YORK, June 22.—The market for evaporated apples ruled quiet, but steady, common 4@5½c; prime, 5½@6¾; choice, 6@6½; fancy, 7½. Prunes are quiet, quotations ranging from 2¾@5 3-4, according to grade. Apricots were a shade easier, but unchanged in price; choice, 9½@10; extra choice, 10¼@10½; fancy, 11@13. Peaches continue firm, choice, 7@7¼; extra choice, 7½@8.

GREEN FRUITS.

The first shipment of pears for the East was made yesterday, one-fourth of a carload being forwarded. Pear shipments will increase from now on, but Bartletts will not move in large quantities for about three weeks.

Shipments of cherries are decreasing each day, and a few more days will see the last of them. The principal shipments continue to be 'cots, and for these good prices are realized. The 'cot crop will be practically cleaned up within the next ten days.

The shipments of peaches and plums are increasing and they will soon go forward in carload lots.—Sacramento Union.

CITRUS MARKETS

AUCTIONS.

NEW YORK CITY, June 20th, 1904.

NAVELS—Owl, O. K. Ex., Upland, $2.35; Bear, $3.75; Quail, $2.45, $3.40; Coyote, $2.55, $2.60.

Uncle Sam, Riv., Pachappa, $2.35; Fiesta, $2.00; Blue Print, $2.60.

Blue Globe, Riv., Riverside, $3.00; La Mesa, $2.65; Red Globe, $1.90; Pepper, $2.30.

Old Mission, Chapmans', $2.90; Golden Eagle, $2.35; Hill, $1.40, $1.25.

BLOODS—Quail, O. K. Ex., Upland, $2.40. Squirrel, A. H. Ex., Prenda, $2.15; Palm Tree, $1.85.

Independent, F. P. Corson, $2.30.

ST. MICHAELS—Squirrel, A. H. Ex., Prenda, $2.45; Palm Tree. $2.00, $2.05.

Harmony, S. A. Ex., San Dimas, $2.30; Pat, $2.05.

Bear, O. K. Ex., Upland, $2.85.

Carnation, C. C. U., C. B. Station, $2.05.

Blue Print, Riv., Pachappa, $2.65; Red Print, $2 35

Old Mission, Chapmans, $3.10.

Independent, F. P. Corson, $2.75.

Val., $2.75.

LEMONS—Selected, V. C. Ex., Santa P., $2.15; Santa Paula, $1.95.

Red Shield, A. C. G. Ex., Azusa, $1.80.

Fountain, Moffatt Ft. Co., $2.45.

PHILADELPHIA, June 20th, 1904.

NAVELS—Jewel, S. A. Ex., Pomona, $2.50; Caro, $2.05.

Violet, D. M. Ex., Duarte, $2.05; Catalina, $2.55.

LEMONS—Quail, O. K. Ex., Upland, $1.90.

Iris, D. M. Ex., Duarte, $.65; Violet, $.60.

Cactus, C. C. U., Highlands, $1.05.

ST. MICHAELS—Humming Bird, Riverside Pioneer, C. J. Shepard, $2.45; Catalina, $2.41.

BOSTON, Mass., June 20th, 1904.

BLOODS—Squirrel, A. H. Ex., Prenda, $2.30.

Pointer, A. C. G. Ex., Azusa, $2.20.

Uncle Sam, Riv., Pachappa, $2.35; Fiesta, $1.95.

Red Globe, Riverside, $1.75, $1.80.

SWEETS—Leader, Q. C. Ex., Corona, $1.75; Southland Beauties, $2.10; Monogram, $1.95.

Puritan, S. B. Ex., Rialto, $3.00; Tally Ho, $2.75.

NAVELS—Squirrel, A. H. Ex., Prenda, $2.40.

Blue Print, Riv., Pachappa, $2.10; Uncle Sam, $2.80; Fiesta, $2.50.

Red Globe, Riv., Riverside, $2.30.

Quail, O. K. Ex., Ontario, $2.80; Coyote, $2.25.

ST. MICHAELS—Leader, Q. C. Ex., Corona, $1.60; So. Beauties, $2.30.

Squirrel, A. H. Ex., Prenda, $1.10.

Blue Globe, Riv., Riverside, $1.15.

Pointer, A. C. G. Ex., Azusa, $2.00.

Red Globe, Riv., Riverside, $1.90.

Puritan, S. B. Ex., Rialto, $2.60; Tally Ho, $2.75.

LEMONS—Harmony, S. A. Ex., San Dimas, $2.95; Pet, $2.00; Selects, $1.55.

NEW YORK CITY, June 21st, 1904.

Pointer, A. C. G Ex., Azusa $2.05.

Topaz, C. C. U., Glendora, $2.25; Sapphire, $2.15; Amethyst, $1.85.

Carnation, C. C. U., C. B. Station, $2.20.

Rose (Med.), C. C. U., Redlands, $2.35.

Clover, C. C. U., Redlands, $2.30.

Old Mission, Chapmans' Golden Eagle, $2.60; $3.05.

Independent, F. P. Corson, $2.70.

ST. MICHAELS—Rose, C. C. U., Redlands, $2.30; Clover, $2.45; Unwrapped, $2.15; Tiger Head, $2.30.

Ruby, C. C. U., Glendora, $2.90; Sapphire, $2.40.

La Mesa, Riv., Riverside, $2.25.

Carnation, C. C. U., C. B. Station, $2.00.

Old Mission, Chapmans', $3.05.

NAVELS—Uncle Sam, Riv., Pachappa, $3.05; Fiesta, $2.50; Golden Rule, Riv., Riverside, $2.35.

Coyote, O. K. Ex., Upland, $2.65.

Elks, Riverside Ft. Co., $1.90.

Red Star, Geo. A. Wilber, $2.40.

BLOODS—La Mesa, Riv., Riverside, $1.95; Golden Rule, $1.40.

Independent, F. P. Corson, $2.20.

GRAPE FRUIT—Rose, C. C. U., Redlands, $1.55.

Stag, A. C. G. Ex., Azusa, $1.15.

Old Mission, Chapmans', $2.55.

LEMONS—Cactus, C. C. U., Highlands, $1.35.

Corwins, large offs, $2.60; small, $2.10.

Corwins, 300s, 300, 360s, $2.40.

BOSTON, Mass., June 21st, 1904.

NAVELS—Golden Rule, Riv., Riverside, $2.15.

Quail, O. K. Ex., Upland, $3.25.

Carnation, Riverside, C. C. U., $2.35.

Jewel, S. A. Ex., Pomona, $2.45.

Royal, Q. C. Ex., Corona, $1.50.

BLOODS—Tiger Head, C. C. U., Redlands, $3.05.

Fiesta (Ruby), Riv., Pachappa, $1.75; Uncle Sam, $2.05.

SWEETS—Humming Bird, Riv., Riverside, $2.60; Purity, $2.80.

Pioneer, C. J. Shepard, $2.70; Catalina, $2.

LEMONS—Cactus, C. C. U., Highland, $1.[illegible]

Blossom, C. C. U., Redlands, $1.05.

Royal, Q. C. Ex., Corona, $1.40.

ST. MICHAELS—Pine Cone, S. B. Ex., Highlands, $2.50; Carrier, $1.85.

Gypsy Queen, C. C. U., Riverside, $2.20; Carnation, $1.90.

Total to date this season, 25,040 cars, of which 1982 cars are lemons.

Total to same date last season, 19,455 cars, of which 1951 were lemons.

Index to Volume XXII

OF THE

California Cultivator

From January to July, 1904

A

Page.

Acacia—Black wood 116
For Street 319
Aphis 5, 437, 462, 486, 595
Apricots 390
Blight 176
Thinning 484
Almond—Stock 55
Alfalfa—Problems 53, 355, 435, 446, 460
Measuring 583
Apple—Growers' Meeting 197
Cold Storage 247
Trees—Treatment 340
Small Packages 258
Storing of 295
Ben Davis 317
Shiawassee Beauty 342
Alkali—Soil, Trees on 365
Drainage 561
Artichoke—Jerusalem 188
Asparagus—Culture 484
Beds 499

B

Bermuda Grass 5, 90
Beets 585
Bi-Sulphide Carbon 341
Barley—As Horse Feed 403
Bee-Hives 5
Bee Keepers' Meeting 5
Honey—Dark 11
Clipping Queens' Wings 56
Nicotine 56
Bee Keeping, Pages 128, 150, 176, 248, 318, 355, 366, 390, 414, 438, 462, 486, 510, 534, ... 557, 561, 595
Beans—Largest 186
Beans—Velvet 364
Burbank's Success 388
Birds 462

Cucumber Growing 537
Currants—Zante 17
Cherries—Seedlings 55
Trees 56,
Celery—Insects 272
Money in 460
Cassava—Cuttings 79

CITRUS.

Orange Market 5, 371
Split 7
Dry Fruit 29
Varying Carples 11
Question 428
Troubles 491
Evergreen Culture and Growth 510
Citrus Culls—For Fertilizer 533
Chlorosis 557
Tree Pots 65
Pruning 76, 100, 507, 591
Sale of Culls 77
How Pay 102
At Porto Rico 125
Florida Crop 125
[illegible] 149
[illegible] 150
Budding Trees 173
Decay 173
Deadwood 269
Turning Over 269
Frosts 173, 347, 467, 533, 582
Orchard Work for Feb. 175
Tree Planting 195
Trees and Pine Needles 197
Decay in Storage and Transit 221
Mexican Wormy 245
Packing Problem 269, 347
Cost 390, 486
Growers' Meeting 419
Leaves 427
Rest Stock 31
Smudging for Frost 65
Lemons Curing 47
Does it Pay 125, 385
In Southern California 390
Rot 595
Construction—Moisture 272
Cotton Boll Weevil 561
Clover Dale Citrus Fair 123, 226
Cabbage—Seed 580
Cauliflower—Seed 580
Cowpeas 223, 364, 379, 484
Cover Crops 224, 427

D

Distillate-Spray 8, 104
Domestic Economy 501
Date Palms 102, 185, 536
Dwarf Fruit Trees 199
Desert Attractions 271
Deciduous Fruits—Curing 532
Deciduous Trees—Poor Conditions 560
Dairy—Milk Records Teach 12
Short Butter Weights 12
Profits 13
Care of Milk 11, 132
Dairying vs. Grain Raising 40
Farmer 52
Print Butter 59
Butter Price 60
Guernsey's Yield 61
Hints on Milking 61
Profitable 83
Cow Dual Purpose 84
Cow—Large or Small, 86, 108, 110, 133, 301
For Greatest Profit 109
Standard 109
Bitter Milk 109
Test of Breeds 109
Dairying Safe Guard 134
Breaking the Heifer 158

Page

Feeds for Cow 157
Hints 180
Washing Milk Cans 180
Butter Fat Tests 181, 397, 372, 444, 492
Keeping Cream 204
Simple Rules 204
Cleaning Bottles 257
Washing Butter 277
Milk Test 300
Answers 325
Balanced Ration 350
Ensilage 396
Cleanliness 398
Homogenized 461
Milk Fever 462, 557
In Cities 516
Clean Separator 518
Value of Skim Milk 541
Milking 564
Drouth in Arizona 413
Delta Lands 561
Diversification 459
Dodder 484

E

Eucalyptus 101, 102, 174, 222, 272, 294
Exchange—Investigate Methods 65
Fruit Situation 245
Situation 322
Orange Marketing 292, 535
Local Marketing 509
Agency will Destroy 515
Exchange or No Exchange 555
Elsinore Valley 427

F

Fertilizer—Stable 8, 79, 341, 342, 11, 175, 502, ... 318, 364, 414
Phosphate Powder 69, 103, 484
Nitrogen 414
Figs—Successful Culture 29
Coming Money Maker 78
In California 511
Fumigation 203, 296
For Scale 595
Floriculture—Passion Vines 8
World's Famous Avenue 17
Loco Weeds 42
Cyclamen 56
Blue Grass 66
House Plants 66
Catalpas 83
Opium-Poppy 83, 463, 557
Palms 83, 234, 258
Plant Sex 116
Kei Apple 116, 185
Bananas 116
Tritonas 83
Rhododendrons 138
Guavas 138
Solanum 138
Japanese Maples 138, 547
Ferns 164, 571
Roses 164, 272, 282, 319
Flowers for Dry Places 185
Ornamental Trees 210
Foliage Plants 210
Largest Trees 234
Pampas Grass 234
Scarlet Larkspur 207, 367
Umbrella Tree 307, 395
Lawn Work 319
Native Wild Flowers 343
Lupin Repens 343, 557
State Floral Society 357
Carnations 367
Petunias 367
Japanese Gardens 367
Report of Commerce 391
Dahlias 393
Shamrock 391
Asters 391
Turpentine Trees 415
Primroses 415
Native Plants 415
Spider Flowers 415
Medicinal Weeds 439
Mustard 463
Chrysanthemums 407
Annuals 487
Roses—Mildew 487
Garden Notes 487
Bamboos 511
Ugly Gardening 511
Bulb Heads 547
A Gardener's Trip 571
Oaks for Street Planting 581
Chestnuts 581
Wild Garden 581
Fungus—Black 118
Berry Rust 295
Asparagus Rust 200, 246
Apples 247, 595
Mildew—Pea Vine 247
Moulds and Mildews 485
Smut 537
Rusts 584
Fruits for Imperial 133
Farmers' Institute 200, 248, 291, 296, 318 341, ... 364, 389, 390, 403, 414, 446
Fleas 557
Fair, No District 590

G

Grapes—Cold Storage 7
Pruning 55
Desirable Kinds 78
Kind to Plant 101
Graft Failures 223
Grafting 270
For Bloomington 271
For South 271
Eastern 272, 342
Profit in Shipping 302
Bud Variation 313
Grape Juice Unfermented 403, 488
Gooseberry Mildew 79
Maggot 510
Good Roads 363, 523
General Farming—Seasonable Planting.... 276
Gum Trees 340
Grafting Wax 484

H

Home Orchard 247
Hops 579

I

Insects—Crop Eaten by 5
Fuller's Rose Beetle 29, 104
Canker Worms 30, 114
Peach Borer 46, 53, 90, 114, 317
Plant Lice 56
Scutellista vs Spraying 77
Orange Tortrieid 80
Cotton Boll Weevil 126
Oak Borers 128
Red Scale 147, 197, 366
San Jose Scale 151, 270
Lawn Beetle 176
Red Mite 176, 389

Page

Peach Moth 189
Asparagus Scale 200
Strawberry Scale 200
A. B. C. 8, 29, 56, 88, 128
Irrigation—282, 311, 340, 379, 388, 414, 437, 460, 485, 559
Deciduous Trees 279
Wet End of Orchard 413
Arizona Water Decision 529
Wealth in 150
Winter 509
The Colorado 533
Preparing Land for 534
Insects 365, 510, 534
Corn Worms 224
Fruit Fly, Parasite 245
Codling Moth 560, 270, 355, 388, 412
Millipedes 307
Thrips 365
Control 371
Moth—Live Oak 438
Rose—Hoplia 510
Beneficial to Man 532, 556
Studies in Philippines 534
Ants—How to Get Rid of 547
Gypsy Moth 555
Incubators 252

L

Lemons—See Citrus
Live Stock—Cattle
Short Horns 372
Jersey Records 342, 373, 518, 566
Jersey Interests 325
Building Dairy Herd 325, 348
Benefit of Organization 349
Beef Trust 372, 461, 489
Leading Jersey Herd 396
Scrubs vs. Jerseys 420
Milk for Paint Making 420
Profitable Cattle for Beef 444
Palm Glen Jerseys 445
The Cow 468
Good Pedigrees 468
Sugar for Cows 494
Exports 40
Black Leg 277
Improved Cows 518
In Breeding 540, 566
Abortion Contagious 565
Cull the Herd 588
Fattening Heifer Calves 589
Warbles 590
Calves 12, 396
Jersey Record 229
Dairy Bulls 228
Cattle, Beef 54
Meat on Farm 60
Trust 85
For Kicking Cow 133
Texas Fever 200, 296
Jersey Breeders' Meeting 224
Horses—New Blinders 13
Sore Necks 540
Feeding 256, 300
Carrots for 257
Hogs—Good Tonics 60
Curing Sores 300
Rape for 224
Cal. Association 422
In California 492
Demand for 517
Prospects 540
Salt in Charcoal 588
Horses—Care of Feet 40, 133
Notes 462, 465
Sheep—Dipped 156, 157
Valuable Points 588
Goats—Angora 85
Landscape Garden 42, 439
Locoats—Grafting 316
Lake View Valley 379
Lentils 534
Lichens 536

M

Making Cal. Home 68
Millionaire Farmer 124
Manuring—Grain Land 503
Mushrooms 340, 584
Mulberry—White 151
Melons—Mixing 223, 317
Muskmelons—Raising 485

N

Nursery Stock 101, 126, 198

O

Orchards—Small 102
Oranges—See Citrus
Olives 390, 411
Grafting 149
Shade Trees 223
Pickled 246
Canning 585
Oil for Paint 583

P

Pruning—Grape Vines 3, 6
Apple Trees 175
Potatoes—Scab 31, 248
Growers Meet 100
Disease of Plants 318
Growing 465
In England 536
Pear—Blight 198, 316, 580
Alligator 412
Pepper Tree 80
Pecans, Street Trees 151
Peaches—Budding 127
Stock 55
Grafting 117
Seedling 194
Tree Troubles 364
Our Favorite 580
Plums—Roots in Water 151
Prunes—In Oregon 413
Trees, Non-Bearing 31
Market 171
Dried 364
Peanuts, for Profit 127, 57
Persimmons—Grafting 221
Growing 295
Poultry—A Word in Season 278
Brooder Chicks 278
Artificial Incubator Ducks 279
Making Poultry Pay 281
Pigeons 350, 424
With Fruit 473, 544
Little Things 494, 519
Dry Feed for Chicks 495
Odds and Ends 543
Notes 544
In No. California 253
Line Building 326
Advantages of Pure Breed 352
Doctors Differ 374
Preserving Eggs 376
Successful Man 398
Killing and Plucking 400

Page

Pan
Success
Home Ma
Breeds for
Crowless Roos
Douglass Mixture
Woman's Work
Experience Teaches
White Leghorns
Business
Brood
F
P
A
26
15
Ca
Wi
Rul
And
Wy
Mar
Legh
Lice
San J
Trap
Geese
Turkeys
520, 592
Water Fo
Duck Egg
Ducks

Rhubarb, Peanu
Rye—Grasses
Rhubarb
Raisins—Market
Committee, R
Raspberries—Kind
Reservoir—How to

R

Short Cake
Dumplings
Beef
Duck
Geese
Bread
Fritters
Chicken
Toast
Jellies
Mushrooms
Marmalade
Oysters 20, 92
Salad 287, 381, 429, 477
Squash 236
Roley Poley 307
Cake 188, 212, 307
Soup 333, 357, 381
Sauce 188, 236
Macaroni 263
Pie 20, 140, 164, 188
Eggs 356, 305
Pudding 20, 116, 164, 333, 381, 549, 573, 598
Strawberry Foam 212
Chowder 381
Breakfast Sausages 212
Deviled Chicken 263
Potted Pigeons 381
Charlotte 501
Sandwiches 525, 573
Compote 525
Cold Meat 525
Souffle 549
Mackeral 573

S

Spraying 78, 224, 270, 296, 302, 342, 388, 390, 537
Lime, Sulphur, Salt 271
Peach Worm 295
Peach 485
Squirrel Poisoning 295, 318, 484
Sputum, for Hogs 355
Sorghum 461
Silo, Culture—Silk in Italy 5
Seri Cres 31
Soy Bean 316
Seeds ..... Culture in Hot Regions..... 54
Strawberries of 267, 460
Culture 54, 437
Sugar Beets 55
Stocks for Orch

T

Tomatoes—Winter 6
Tropical Fruits
Tuberculosis
Thrift—On Farm

V

Vegetables, New Kinds
Viticultural Club Meeting
Veterinary—Depraved Appetite
Barb Wire Cuts
Garget
Anthalmia
Grubs
Anthrax 28
Tumors 59
Warts 59
Worms 86
Osselage 110
Indigestion 110, 446, 521
Scours 134, 209, 566
Teats 134
Jaw Swelling 152
Slobbers in Horses 152
Fever from Calving 152
Tuberculosis 185, 209, 420, 521
Mange 185, 503
Injured by Wire 233
Glanders 262
Diabetes 262
Pneumonia 446
Open Hip 446
Lice 446
Lumpy Jaw 469
Inflamed Eyes 503
Pink Eye 531, 583
Poll Evil 521
Injured Horse 583

W

Walnuts—Gift 54, 114
Damaged by Frost 101
Catkins 114
Improbability in Grafting 126
Prevent Blight 151, 366
Money in 198
Frosted Trees 316
Contract Awarded 388
Weeds 442, 574
Worms—Web 438
Cut 503

Y

Yeast Plants 413

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